

CHAPTER 3

ADJUSTMENTS TO HOURLY RATES

SECTION I. GENERAL

3-1. Contents. This chapter explains the procedures for adjusting the hourly rates shown in TABLE 2-1.

3-2. Basis for Equipment Rates. The rates shown in TABLE 2-1 are based on the catalog list price of three-year old equipment manufactured in 1996. Area factors used to compute regional ownership and operating expenses are listed in APPENDIX B, Area Factors. All equipment hourly rate elements for average and severe conditions are given in TABLE 2-2, Hourly Rate Elements. Individual cost elements, which comprise the total hourly rate, are shown in TABLE 2-2. These hourly rate elements are listed by equipment identification number, which corresponds to the equipment shown in TABLE 2-1.

- a. Operating Costs consist of five cost elements: fuel (FUEL), filters, oil, and grease (FOG), repairs (REPAIR), tire wear (TIRE WEAR), and tire repair (TIRE REPAIR) located in Table 2-2.
- b. Ownership Costs consist of two cost elements: depreciation (DEPR) and facilities capital cost of money (FCCM) located in Table 2-1 and Table 2-2.

3-3. Basis for Equipment Rate Adjustment Tables. TABLES 3-1, Equipment Rate Adjustments for Ownership Costs, and TABLE 3-2, Equipment Rate Adjustments for Standby Costs, have been developed to adjust TABLE 2-1 hourly rates.

3-4. Determination for use of Equipment Rates in Table 2-1. There are two methods to obtain an hourly equipment rate. The first method is to use the rates in Table 2-1 and Table 2-2, and modify them as described in this chapter. The second method is to use the step-by-step rate computation shown in Figure 2-1. The equipment rates shown in Table 2-1 and Table 2-2 may be used instead of a step-by-step rate computation when both of the following conditions are met.

- a. Cost or pricing data is not available.
- b. The contractor's actual unit of equipment is equivalent in size, capacity, horsepower, and value to the unit of equipment listed in TABLE 2-1.

SECTION II. RATE ADJUSTMENTS

3-5. Rate Adjustments. The ownership and/or the operating portion of the hourly rates and standby hourly rates shall be adjusted whenever one or more of the following rate adjustment conditions exist. Rate adjustment conditions are explained below.

Changes in operating conditions	See Paragraph 3-6.
Changes in FCCM rate	See Paragraph 3-7.
Work shifts greater than 40 hours per week	See Paragraph 3-8.
Changes in FUEL cost	See Paragraph 3-9.
Adjustments to FOG Cost	See Paragraph 3-10.
Equipment of different age than Table 2-1	See Paragraph 3-11.
Rate adjustment for overage equipment	See Paragraph 3-12.
Rate adjustment for overage equipment standby	See Paragraph 3-13.

There are no rate adjustments for APPENDIX B factors except for fuel cost and Cost of Money Rate (COM). Also, there are no rate adjustments for repairs, tire wear, or tire repair.

3-6. Changes in Operating Conditions. If difficult or severe conditions are justified by the Contracting Officer, selection or calculation of the appropriate rate is necessary. See Chapter 2, Section II, Operating Conditions for definition of average, difficult, or severe conditions, and determination of condition.

3-7. Change in Facilities Capital Cost of Money (FCCM) Rate. If the cost-of-money rate shown in Chapter 2, Section VII, Ownership Cost is not the current rate, the FCCM portion of the rate shall be adjusted upward or downward to match the cost-of-money rate for the period of equipment use. See APPENDIX I, Federal Cost-of-Money Rate, for a listing of cost-of-money rates. The Department of the Treasury adjusts the cost-of-money rate (Prompt Payment Interest Rate) on or about 1 January and 1 July each year; these revisions are printed in the Federal Register. Internet address for Prompt Payment Interest Rate is <http://www.fms.treas.gov/prompt.html>.

$$\text{Hourly Rate} = \text{DEPR/hr} + [(\text{FCCM}/\text{hr}) \times (\frac{\text{new COM}}{\text{old COM}})] + \text{Operating Costs/hr}$$

Example: Assume that TABLE 2-1 includes a crane (*Category C80, Sub-Category 0.02*) with the below hourly costs. The FCCM rate has increased from 5.00% to 6.00% (increase of 20.00%). The total hourly rate for this piece of equipment can be determined as follows:

Assumptions for Cost of Money rate of 6.00% (Discounted Rate of 4.00%):

DEPR (Depreciation)	= \$30.00/hr
FCCM (Facilities Capital Cost of Money)	= \$10.00/hr
Operating Costs (FUEL, FOG, TIRE WEAR, TIRE REPAIR, & REPAIR)	= \$40.00/hr
	=====
Total hourly rate (40 hrs/week)	= \$80.00/hr

Adjustment Calculation for new Cost of Money rate of 6.00%:

$$\$30.00/\text{hr} + [(\$10.00/\text{hr}) \times (\underline{6.00\%})] + \$40.00/\text{hr} = \$82.00/\text{hr}$$

(5.00 %)

3-8. Actual Work Hours Exceed 40 Hours per Week. If the actual number of work hours per week is greater than 40 hours, an adjustment shall be made to the FCCM element of the ownership cost. FCCM is to be paid up to a maximum of 40 hours per week (7 calendar days). To calculate a multi-shift rate, prorate the 40-hour FCCM over the actual hours per week, as follows:

Work Shift (Exceeding 40 hrs/week)

$$\text{Hourly Rate} = \text{DEPR}/\text{hr} + [(\text{FCCM}/\text{hr}) \times (\underline{40 \text{ hrs/week}})] + \text{Operating Costs}/\text{hr}$$

(actual work hrs/week)

Example: Assume that TABLE 2-1 includes a crane (*Category C80, Sub-Category 0.02*) with the below hourly costs. This crane worked 10 hours per day, 6 days per week (60 hours per week). The total hourly rate for this piece of equipment can be determined as follows:

Assumptions for 40 hrs/week:

DEPR (Depreciation)	= \$30.00/hr
FCCM (Facilities Capital Cost of Money)	= \$10.00/hr
Operating Costs (FUEL, FOG, TIRE WEAR, TIRE REPAIR, & REPAIR)	= \$40.00/hr
	=====
Total hourly rate (40 hrs/week)	= \$80.00/hr

Adjustment Calculation for 60 hrs/week:

$$\$30.00/\text{hr} + [(\$10.00/\text{hr}) \times (\underline{40 \text{ hrs/week}})] + \$40.00/\text{hr} = \$76.67/\text{hr}$$

(60 hrs/week)

3-9. Changes in Fuel Cost. Hourly fuel costs (including electricity) shall be adjusted in the event the average fuel prices at the jobsite vary by more than 10 percent above or below the price in APPENDIX B. The contractor shall be required to furnish copies of all fuel supply contracts and invoices to the government to support fuel cost adjustment. Request for upward adjustment in the rates will be considered only when fuel is supplied by recognized distributors of bulk quantities. For example, if fuel cost increased by 15 percent, then 15 percent of the hourly fuel cost shall be added to the total hourly rate. Mathematically this is the ratio of the new fuel cost divided by the fuel cost (Appendix B).

$$\text{Hourly Rate} = (\text{DEPR/hr} + \text{FCCM/hr}) + (\text{FOG/hr} + \text{TIRE WEAR/hr} + \text{TIRE REPAIR/hr} + \text{REPAIR/hr}) + [(\text{new Fuel cost}) \times \text{FUEL/hr}]$$

(Fuel cost in Appendix B)

Example: Assume that TABLE 2-1 includes a crane (Category C80, Sub-Category 0.02) with the below hourly costs. The fuel cost of \$1.03/gal from Appendix B has increased to \$1.20/gal (increase of 16.5%). The total hourly rate is adjusted by adding 16.5% to the hourly FUEL cost element. The total hourly rate for this piece of equipment can be determined as follows:

Assumptions for fuel cost of \$1.03/gal from Appendix B:

DEPR (Depreciation)	=	\$30.00/hr
FCCM (Facilities Capital Cost of Money)	=	\$10.00/hr
FOG + TIRE WEAR + TIRE REPAIR + REPAIR	=	\$30.00/hr
FUEL	=	\$10.00/hr
	=====	
Total hourly rate	=	\$80.00/hr

Adjustment Calculation for new FUEL rate of \$1.20/gal:

$$(\$30.00/\text{hr} + \$10.00/\text{hr}) + \$30.00/\text{hr} + [(\$1.20/\text{gal}) \times \$10.00/\text{hr}] = \$81.65/\text{hr}$$

(\$1.03/gal)

3-10. Adjustments to FOG Cost. The hourly FOG allowance shall also be adjusted upward or downward at the same percentage as the fuel cost change using the methodology as shown in paragraph 3-8, Changes in Fuel Cost.

3-11. Equipment of different age than Table 2-1. When the age of the equipment is newer or older than the age of the equipment listed in TABLE 2-1, TABLE 3-1 factors may be used to adjust the hourly rate (See paragraph 3-4. for guidance), otherwise the step-by-step calculation method is necessary. The factors given in TABLE 2-1 are

multiplied by the hourly ownership costs shown in TABLE 3-1. The result is an ownership rate adjusted for the actual age of the equipment. Note: Age adjustment factors in TABLES 3-1 and 3-2 varies by region.

- a. When the age of a unit of equipment is older than the age of the equipment listed in TABLE 2-1, and does not exceed the economic life, as shown in APPENDIX D, use the example below to adjust the hourly rate. Economic life is determined by dividing hours of LIFE (from APPENDIX D) by Working Hours Per Year (WHPY from APPENDIX B).

Example: Assume that TABLE 2-1 includes a crane (Category C80, Sub-Category 0.02) manufactured in 1996, and has a total hourly rate of \$65.00 per hour and an ownership rate of \$30.00 per hour. If an equivalent crane owned by a contractor was manufactured in 1992, the total hourly rate is determined as follows:

Table 2-1 rate and adjustment calculation:

Total hourly rate	= \$65.00/hr
Ownership rate 1996 (Depreciation + FCCM)	=(\$30.00)/hr
Ownership rate 1992 adjusted for age	
(Ownership rate = \$30.00) x (age adjustment factor = .90)	=+ \$27.00/hr
	=====
Total hourly rate for equipment manufactured in 1992	= \$62.00/hr

Note: The age adjustment factor of .90 is found in TABLE 3-1, for CAT C80, SUB 0.02, and for the year 1992.

- b. When the unit of equipment is older than the age of equipment listed in TABLE 2-1 and exceeds the economic life as shown in APPENDIX D, use the example for overage equipment in Section 3-11.b shown below.

- c. When the age of the unit of equipment is younger than the life in years shown in Table 3-1, use the latest age adjustment factor listed and follow the above adjustment example. The step-by-step calculation method shown in Figure 2-1, Equipment Rate Calculation Worksheet may also be used.

3-12. Rate Adjustment for Overage Equipment. If the contractor's equipment exceeds the economic life in hours, it is considered overage and the rates shall be adjusted (see Chapter 2, Section V, LIFE).

- a. The base year for determining overage equipment value is the year corresponding to economic life. The total hourly operating rate for overage equipment

(no matter how old) shall be computed on the basis that the equipment is as old as possible "without" exceeding the hours of LIFE as shown in APPENDIX D. TABLE 3-1 and TABLE 3-2 show factors for the economic life for equipment based on the current pamphlet year (e.g. manufactured in 1996). If there is a comparable unit of equipment (horsepower, value, capacity, and size) shown in TABLE 2-1, the total hourly rate can be computed as shown in the following example.

b. If the equipment is overage, the ownership portion of the rate shall be adjusted. This adjusted rate is not to exceed the rate for the same unit of equipment that is not overage.

Example: Assume that TABLE 2-1 includes a crane (*Category C80, Sub-Category 0.02*) manufactured in 1996, and has a total hourly rate of \$65.00 per hour and an ownership rate of \$30.00 per hour. If an equivalent crane owned by a contractor was manufactured in 1974 (maximum life 1984), this crane is overage and the total hourly rate is determined as follows:

Table 2-1 rate and adjustment calculations:

Total hourly rate	= \$65.00/hr
Ownership rate 1996 (Depreciation + FCCM)	=(\$30.00)/hr
Ownership rate 1974 adjusted for age (Ownership rate = \$30.00) x	
(Assume the oldest age adjustment factor = .63)	=+ \$18.90/hr
	=====
Total hourly rate for equipment manufactured in 1974	= \$53.90/hr

Note: The age adjustment factor of .63 is found in TABLE 3-1, for CAT C80, SUB 0.02, and for the last year shown.

3-13. Rate Adjustment for Overage Equipment Standby. If the equipment age is other than listed in TABLE 2-1 (1996), then adjustment to the hourly standby rate is required.

a. Standby rates are based on the "actual" age of the equipment, whether overage or not. The age adjustment factors given in TABLE 3-2 are multiplied by the hourly standby costs shown in TABLE 2-1 and result in a standby rate adjusted for the "actual" age of the unit of equipment being considered.

Example: Assume that TABLE 2-1 includes a crane (*Category C80, Sub-Category 0.02*) manufactured in 1996, and has a standby rate of \$18.00 per hour. If an

equivalent crane owned by a contractor was manufactured in 1992, the hourly standby rate is determined as follows:

Table 2-1 rate:

Hourly Standby rate (per hour) = \$18.00/hr

Adjustment Calculation :

Hourly Standby rate adjusted for actual age (per hour)

(Hourly Standby rate = \$18.00/hr) x (Age adjustment factor = .90) = \$16.20/hr

Note: The age adjustment factor of .90 is found in TABLE 3-2, for CAT C80, SUB 0.02, and for 1992 (actual year of manufacture).

b. When the equipment age is older than the last year shown in TABLE 3-2, the standby rate must be calculated using the step-by-step methodology shown in Figure 3-2, Standby Hourly Rate Calculation for Overage Equipment.

3-14. Adjustments to Rates for Equipment Not Listed in TABLE 2-1. When a unit of equipment is not listed in TABLE 2-1, the hourly rate may be determined by using the hourly rate listed for a similar unit of equipment or by proportioning a rate listed so that horsepower, value, capacity, and size are properly considered. When an hourly rate cannot be determined using TABLE 2-1, rates will be calculated following the methodology outlined in Chapter 2 and the adjustments explained in this chapter.

3-15. Equipment Purchased Used. A detailed methodology for computing a total hourly rate for equipment purchased used is not included in this pamphlet.

a. When actual cost data in accordance with Chapter 1 is not available, an hourly rate and standby rate for equipment purchased used can be computed on the basis that the equipment was purchased new by the contractor in the year it was manufactured. Consideration for the actual age of used equipment may require an adjustment for overage.

b. The condition of the used equipment at the time of purchase should consider the extent of capital improvements, mechanical condition, and previous hours of operation. These conditions are difficult or impossible to determine and evaluate when computing a total hourly rate based on actual acquisition cost.

3-16. Rate Calculation Example. Figure 3-1, Total Hourly Rate Calculation for Overage Equipment, illustrates how total hourly rates are adjusted for overage equipment.

Figure 3-2, Standby Rate Calculation for Overage Equipment, gives a sample calculation for computing adjusted standby rates.

TABLE 3-1
EQUIPMENT AGE ADJUSTMENT FACTORS
FOR
OWNERSHIP COSTS

THE "Equipment Age Adjustment Factors for Ownership Costs" in TABLE 3-1 are used when the age of a unit of equipment is other than the age of the equipment listed in TABLE 2-1.

The factors given in TABLE 3-1 are multiplied by the hourly ownership costs when shown in TABLE 2-1 and result in an ownership rate adjusted for the actual age of the equipment being considered.

When the "life" of the unit of equipment has exceeded the economic life given in APPENDIX D, the age will be determined as discussed in Chapter 3, Adjustments to Hourly Rates

Refer to Chapter 3, as follows:

- 3-11. Equipment of different age than Table 2-1.
- 3-12. Rate Adjustment for Overage Equipment.

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years						Year Purchased New											
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982
A10 0.00	AGGREGATE / CHIP SPREADERS																			
A10 0.10	SELF-PROPELLED		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
A10 0.20	TOWED & TAILGATE		1.10	1.07	1.04	1.00	0.98	0.95												
A15 0.00	AIR COMPRESSORS, PORTABLE																			
A15 0.10	ROTARY SCREW		1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.94	0.94								
A15 0.20	SHOP TYPE		1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.94	0.94	0.90	0.85						
A20 0.00	AIR HOSE, TOOLS & EQUIPMENT																			
A20 0.10	AIR HOSE		1.01	1.01	1.00	1.00														
A20 0.20	SANDBLAST HOSE		1.01	1.01	1.00	1.00														
A20 0.30	SANDBLASTERS, BREAKERS, & MISC. AIR TOOLS		1.01	1.01	1.00	1.00														
A25 0.00	ASPHALT PAVING DISTRIBUTORS		1.10	1.07	1.04	1.00	0.98	0.95	0.93	0.89										
A30 0.00	ASPHALT PAVERS & MISCELLANEOUS ROAD EQUIPMENT																			
A30 0.10	SELF PROPELLED		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
A30 0.20	TOWED		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
A30 0.30	SLURRY SEAL PAVERS (COLD MIX)		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85	0.82	0.79						
A30 0.40	MISCELLANEOUS ROAD EQUIPMENT		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
A35 0.00	ASPHALT PAVING KETTLES		1.10	1.07	1.04	1.00	0.98	0.95												
A40 0.00	ASPHALT & CONCRETE MILLERS / PROFILERS / PLANERS		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
A45 0.00	ASPHALT RECYCLERS & SEALERS		1.10	1.07	1.04	1.00	0.98	0.95	0.93	0.89										
B10 0.00	BATCH PLANTS (ASPHALT & CONCRETE)																			
B10 0.10	ASPHALT		1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86								
B10 0.20	CONCRETE		1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86								
B10 0.30	PUGMILL		1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86								
B15 0.00	BROOMS, STREET SWEEPERS & FLUSHERS		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91										
B20 0.00	BRUSH CHIPPERS		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91										
B25 0.00	BUCKETS, CLAMSHELL		1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.86	0.81								
B30 0.00	BUCKETS, CONCRETE																			

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years					Year Purchased New												
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982
B30 0.10	GENERAL PURPOSE, MANUAL TRIP		1.05	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.85	0.80								
B30 0.20	LAYDOWN		1.05	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.85	0.80								
B30 0.30	LOWBOY		1.05	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.85	0.80								
B30 0.40	LOW SLUMP		1.05	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.85	0.80								
B35 0.00	BUCKETS, DRAGLINE																			
B35 0.10	LIGHT WEIGHT		1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.93										
B35 0.20	MEDIUM WEIGHT		1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.85									
B35 0.30	HEAVY WEIGHT		1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.93	0.86	0.81								
C05 0.00	CHAIN SAWS		1.07	1.04	1.02	1.00														
C10 0.00	COMPACTORS & WALK-BEHIND ROLLERS																			
C10 0.10	COMPACTORS, RAMMERS / TAMPER & VIBRATORY PLATES		1.07	1.05	1.02	1.00	0.97													
C10 0.20	ROLLERS, VIBRATORY		1.07	1.05	1.02	1.00	0.97													
C15 0.00	CONCRETE CLEANERS / BLASTERS		1.07	1.05	1.02	1.00	0.97	0.95												
C20 0.00	CONCRETE BUGGIES		1.07	1.05	1.02	1.00	0.97													
C25 0.00	CONCRETE FINISHERS/SCREEDS/SPREADERS																			
C25 0.10	FINISHERS/TROWELS		1.07	1.05	1.02	1.00	0.97													
C25 0.20	VIBRATORY SCREED		1.07	1.05	1.02	1.00	0.97													
C25 0.25	VIBRATORY LASER SCREED		1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
C25 0.30	MATERIAL/TOPPING SPREADERS		1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
C30 0.00	CONCRETE GRINDERS		1.07	1.05	1.02	1.00	0.97													
C35 0.00	CONCRETE GUNITERS / SHOTCRETERS		1.07	1.04	1.02	1.00	0.97	0.95	0.94											
C40 0.00	CONCRETE MIXING UNITS		1.07	1.05	1.02	1.00	0.97													
C45 0.00	CONCRETE PAVING MACHINES		1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85								
C55 0.00	CONCRETE PUMPS		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91										
C60 0.00	CONCRETE SAWS (sawblade wear not included)		1.07	1.05	1.02	1.00	0.97	0.95												
C65 0.00	CONCRETE VIBRATORS		1.01	1.01	1.00	1.00														
C70 0.00	CRANES, GANTRY & STRADDLE																			

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years								Year Purchased New																	
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982								
C75 0.00	CRANES, HYDRAULIC, SELF-PROPELLED		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66												
C80 0.00	CRANES, HYDRAULIC, TRUCK MOUNTED																											
C80 0.01	UNDER 26 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66												
C80 0.02	26 TON THRU 65 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.63										
C80 0.03	66 TON THRU 125 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.62	0.61								
C80 0.04	OVER 125 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61								
C85 0.00	CRANES, MECHANICAL, LATTICE BOOM, CRAWLER MOUNTED																											
C85 0.11	DRAGLINE, CLAMSHELL, 0 THRU 1.0 CY		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.81	0.77	0.70														
C85 0.12	DRAGLINE, CLAMSHELL, OVER 1.0 CY THRU 2.5 CY		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66												
C85 0.13	DRAGLINE, CLAMSHELL, OVER 2.5 CY THRU 5.0 CY		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.63										
C85 0.14	DRAGLINE, CLAMSHELL, OVER 5.0 CY		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.62	0.61								
C85 0.21	LIFTING, 0 THRU 25 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69													
C85 0.22	LIFTING, 26 TON THRU 50 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66	0.64											
C85 0.23	LIFTING, 51 TON THRU 150 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.62	0.61								
C85 0.24	LIFTING, OVER 150 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61								
C90 0.00	CRANES, MECHANICAL, LATTICE BOOM, TRUCK MOUNTED																											
C90 0.01	UNDER 26 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66												
C90 0.02	26 TON THRU 65 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.63										
C90 0.03	66 TON THRU 125 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.62	0.61								
C90 0.04	OVER 125 TON		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61								
C95 0.00	CRANES, TOWER		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.81	0.77	0.70	0.68	0.66	0.64	0.63	0.61	0.60								
D10 0.00	DRILLS,AIR/HYDRAULIC,CRWLR MTD,0" THRU 6.5" DIA HOLE		1.06	1.03	1.02	1.00	0.96	0.93	0.92	0.89	0.88	0.85																
D15 0.00	DRILLS, HORIZONTAL BORING & GROUND PIERCING		1.06	1.03	1.02	1.00	0.96	0.93	0.92	0.89	0.88	0.85																
D20 0.00	DRILLS, CORE, COLUMN MOUNTED		1.07	1.03	1.02	1.00	0.96	0.93	0.92	0.89																		
D25 0.00	DRILLS, CORE, SKID MOUNTED		1.06	1.03	1.02	1.00	0.96	0.93	0.92	0.89	0.88	0.85																
D30 0.00	DRILLS, EARTH / AUGER		1.06	1.03	1.02	1.00	0.96	0.93	0.92	0.89	0.88	0.85																
D35 0.00	DRILLS, ROTARY BLASTHOLE																											

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years							Year Purchased New															
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982					
D35	0.11	DIESEL, 4.5" THRU 9.875" DIAMETER HOLE	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.88	0.85	0.82	0.77	0.76	0.76									
D35	0.12	DIESEL, OVER 9.875" DIAMETER	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.77	0.77	0.77	0.78	0.77	0.78	0.77	0.78	0.77	0.77		
D35	0.21		1.06		1.02	1.00		0.94	0.92		0.88	0.85		0.77	0.76										
D35	0.22		1.06	1.03		1.00	0.96		0.92	0.90		0.86	0.83		0.77	0.77		0.77	0.78						
F10	0.00		1.07	1.04		1.00	0.97		0.93	0.91		0.85													
G10	GENERATOR SETS																								
G10	PORTABLE		1.00		0.99	1.00		0.96	0.95																
G10	0.20		1.00	1.00		1.00	0.99		0.95	0.93		0.90													
G15	GRADERS, MOTOR		1.09		1.02	1.00		0.92	0.89		0.79	0.76		0.68	0.66										
H10	0.00		1.07	1.05		1.00	0.97																		
H13	0.00																								
H13	0.11	COMPACTORS (COMPRESSION FORCE) 0 THRU 50 TONS		1.04	1.02		0.97	0.95		0.91	0.88														
H13	0.12	COMPACTORS (COMPRESSION FORCE) OVER 50 TONS		1.04	1.02		0.97	0.95		0.91	0.88		0.81	0.77											
	0.21	FILTER PRESSES, STATIONARY		1.04	1.02		0.97	0.95		0.91	0.88														
H13	0.22		1.07	1.04		1.00	0.97		0.94	0.91		0.85													
H13	CENTRIFUGES		1.07		1.02	1.00																			
	0.40	SHREDDERS		1.04	1.02		0.97	0.95		0.91	0.88														
H13	0.51		1.07	1.04		1.00	0.97		0.94	0.91		0.85													
H13	SLUDGE PROCESSING EQUIP, SLUDGE DISPENSERS		1.07	1.04		1.00	0.97		0.94	0.91		0.85													
H13	WASTE HANDLING EQUIPMENT, DRUM HANDLING		1.07	1.04		1.00																			
H15	HEATERS, SPACE																								
H20	HOISTS & AIR WINCHES		1.07		1.02	1.00		0.95	0.93		0.88														
H25	HYDRAULIC EXCAVATORS, CRAWLER MOUNTED																								
H25	0 LBS THRU 40,000 LBS		1.08		1.03	1.00		0.94	0.93		0.82	0.79													
	0.12	OVER 40,000 LBS THRU 100,000 LBS		1.05	1.02		0.97	0.95		0.89	0.83		0.76	0.69											
	0.13	OVER 100,000 LBS THRU 160,000 LBS		1.05	1.02		0.97	0.95		0.90	0.84		0.77	0.71		0.67	0.65		0.62	0.61					
	0.14	OVER 160,000 LBS		1.05	1.02		0.97	0.95		0.90	0.84		0.77	0.71		0.67	0.65		0.62	0.61					

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years							Year Purchased New										
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
			1998	1996	1994	1992	1990	1988	1986	1985	1984	1983	1982							
H25	0.21	ATTACHMENTS, MOBILE SHEARS	1.07	1.04	1.02	1.00	0.97	0.95												
H25	0.22	ATTACHMENTS, MATERIAL HANDLING	1.07	1.05	1.02	1.00	0.97	0.95												
H25	0.23	ATTACHMENTS, CONCRETE PULVERIZERS	1.07	1.04	1.02	1.00	0.97	0.95												
H25	0.24	ATTACHMENTS, COMPACTORS	1.07	1.04	1.02	1.00	0.97	0.95												
H30	0.00	HYDRAULIC EXCAVATORS, WHEEL MOUNTED																		
H30	0.01	0 THRU 1.0 CY	1.08	1.05	1.02	1.00	0.97	0.95	0.93	0.89										
H30	0.02	OVER 1.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.81								
H35	0.00	HYDRAULIC SHOVELS, CRAWLER MOUNTED																		
H35	0.11	DIESEL, 0 CY THRU 5.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.66				
H35	0.12	DIESEL, OVER 5.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.63		
H35	0.21	ELECTRIC, OVER 2.5 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.81	0.77	0.70	0.68	0.66	0.64	0.63	0.61	0.60
L10	0.00	LAND CLEARING EQUIPMENT	1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83	0.81	0.78								
L15	0.00	LANDSCAPING EQUIPMENT	1.07	1.04	1.02	1.00														
L20	0.00	LIGHTING SETS, TRAILER MOUNTED																		
L20	0.10	METALLIC VAPOR	1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
L25	0.00	LINE STRIPING EQUIPMENT	1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
L30	0.00	LOADERS, BELT (CONVEYOR BELTS) & ACCESSORIES	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85								
L35	0.00	LOADERS, FRONT END, CRAWLER TYPE	1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83										
L40	0.00	LOADERS, FRONT END, WHEEL TYPE																		
L40	0.11	ARTICULATED, 0 THRU 225 HP	1.06	1.04	1.01	1.00	0.96	0.94	0.92	0.88	0.86	0.83								
L40	0.12	ARTICULATED, OVER 225 HP	1.05	1.03	1.01	1.00	0.97	0.94	0.92	0.90	0.87	0.85	0.82	0.79	0.76					
L40	0.20	SKID STEER	1.05	1.03	1.01	1.00	0.97	0.94	0.92	0.89										
L40	0.21	SKID STEER ATTACHMENTS	1.06	1.03	1.01	1.00														
L40	0.31	TOOL CARRIER & TELESCOPIC HANDLERS, 0 THRU 225 HP	1.06	1.04	1.01	1.00	0.96	0.94	0.92	0.88	0.86	0.83								
L40	0.32	TOOL CARRIER & TELESCOPIC HANDLERS, OVER 225 HP	1.05	1.03	1.01	1.00	0.97	0.94	0.92	0.90	0.87	0.85	0.82	0.78						
L45	0.00	LOADERS / BACKHOE, CRAWLER TYPE	1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83	0.81	0.78								
L50	0.00	LOADERS / BACKHOE, WHEEL TYPE	1.06	1.04	1.01	1.00	0.96	0.94	0.92	0.88	0.86	0.83								

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years							Year Purchased New														
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
			1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982				
L55 0.00	LOADER / BACKHOE, ATTACHMENTS		1.07	1.05	1.02	1.00	0.97	0.95																
L60 0.00	LOG SKIDDERS		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93														
M10 0.00	MARINE EQUIPMENT																							
M10 0.11	AQUATIC MAINTENANCE		1.10	1.06	1.04	1.00	0.95	0.94	0.92	0.88	0.83	0.79												
M10 0.12	AQUATIC MAINTENACE ATTACHMENTS		1.11	1.06	1.04	1.00	0.95	0.93																
M10 0.21	HYDRAULIC CUTTERHEAD DREDGE, 8" OR LESS, TRANSPORTABLE		1.10	1.06	1.04	1.00	0.95	0.94	0.92	0.88	0.83	0.79												
M10 0.22	HYDRAULIC CUTTERHEAD DREDGE, 8" - 12", TRANSPORTABLE		1.10	1.06	1.04	1.00	0.96	0.94	0.93	0.88	0.83	0.80	0.76	0.73										
M10 0.23	HYDRAULIC AUGERHEAD DREDGE, 12" OR LESS, TRANSPORTABLE		1.10	1.06	1.04	1.00	0.95	0.94	0.92	0.88	0.83	0.79												
M10 0.24	HYDRAULIC FLOATING PUMPS, 12" OR LESS, TRANSPORTABLE		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88														
M10 0.25	HYDRUALIC DREDGE PUMPS, 12" OR LESS, TRANSPORTABLE		1.10	1.06	1.04	1.00	0.95	0.94																
M10 0.26	HYDRAULIC DREDGE / PUMP ATTACHMENTS		1.10	1.06	1.04	1.00	0.95	0.94																
M10 0.31	SMALL MECH DREDGES, CLAMSHELL, BARGE-MTD TO 5 CY		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61				
M10 0.32	SMALL MECH DREDGES, AMPHIBIOUS EXCAVATORS		1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.81												
M10 0.33	SMALL MECH DREDGES, HOE-MOUNTED DREDGING ATTACH		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62				
M10 0.34	CLAMSHELL, BARGE-MTD, 0 CY - 3 CY		1.10	1.05	1.04	1.00	0.96	0.94	0.93	0.88	0.83	0.80	0.76	0.73	0.72	0.72	0.69	0.67	0.64	0.62				
M10 0.35	CLAMSHELL, BARGE-MTD, OVER 3 CY - 6 CY		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.80	0.77	0.73	0.73	0.72	0.70	0.68	0.65	0.63				
M10 0.36	CLAMSHELL, BARGE-MTD, OVER 6 CY - 10 CY		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.78	0.74	0.74	0.73	0.71	0.69	0.66	0.64				
M10 0.37	CLAMSHELL, BARGE-MTD, OVER 10 CY		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.85	0.81	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65				
M10 0.41	WORK FLOATS (NON-DREDGING)		1.10	1.06	1.04	1.00	0.96	0.94																
M10 0.42	WORK BARGES (SECTIONAL, NON-DREDGING)		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80												
M10 0.45	FLAT-DECK OR CARGO BARGE (NON-DREDGING)		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64				
M10 0.46	HOPPER BARGE (NON-DREDGING)		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64				
M10 0.47	DRILL BARGE (NON-DREDGING)		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64				
M10 0.48	ALL OTHER BARGES (NON-DREDGING)		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64				
M10 0.51	BOATS & LAUNCHES, 0 THRU 250 HP		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.79	0.75	0.72										
M10 0.53	BOATS & LAUNCHES, 251 THRU 500 HP		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.79	0.76	0.72	0.71	0.71								
M10 0.54	TUGS, 501 THRU 1,000 HP		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62				

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years					Year Purchased New												
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982
M10 0.55	TUGS, OVER 1,000 HP		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.70	0.68	0.65	0.63
M10 0.60	LFTING CRANE, BARGE MTD, 25 - 75 TON, 45' BOOM		1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62
M10 0.61	LFTING CRANE, BARGE MTD, OVER 75 - 125 TON, 60' BOOM		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.80	0.77	0.73	0.73	0.72	0.70	0.68	0.65	0.63
M10 0.62	LFTING CRANE, BARGE MTD, OVER 125 - 200 TON, 80' BOOM		1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.66	0.64
M10 0.63	LFTING CRANE, BARGE MTD, OVER 200 TON, 100' BOOM		1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.81	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65
P10 0.00	PILE HAMMER ACCESSORIES - EXTRACTORS & BOX LEADS		1.08	1.05	1.02	1.00	0.97	0.94												
P20 0.00	PILE HAMMERS, DOUBLE ACTING																			
P20 0.10	DIESEL		1.08	1.05	1.02	1.00	0.97	0.94												
P20 0.20	STEAM		1.08	1.05	1.02	1.00	0.97	0.94												
P25 0.00	PILE HAMMERS, SINGLE ACTING																			
P25 0.10	DIESEL		1.08	1.05	1.02	1.00	0.97	0.94												
P25 0.20	STEAM		1.08	1.05	1.02	1.00	0.97	0.94												
P30 0.00	PILE HAMMERS, DRIVER/ EXTRACTOR, VIBRATORY		1.08	1.05	1.02	1.00	0.97	0.94												
P35 0.00	PIPELAYERS		1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83	0.80	0.78	0.75	0.70	0.64	0.61	0.61			
P40 0.00	PLATFORMS & MAN-LIFTS		1.08	1.05	1.02	1.00	0.97	0.95	0.93	0.89										
P45 0.00	PUMPS, GROUT		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91										
P50 0.00	PUMPS, WATER, CENTRIFUGAL, TRASH																			
P50 0.11	SKID MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
P50 0.12	SKID MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
P50 0.21	WHEEL MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
P50 0.22	WHEEL MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										
P50 0.31	HOSES, PUMP, SUCTION & DISCHARGE		1.06	1.04	1.02	1.00														
P55 0.00	PUMPS, WATER, SUBMERSIBLE																			
P55 0.01	ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84								
P55 0.02	ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84								
P60 0.00	PUMPS, WATER, CENTRIFUGAL, DEWATERING																			
P60 0.11	SKID MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90										

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years								Year Purchased New															
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982						
P60 0.12	SKID MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P60 0.21	WHEEL MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P60 0.22	WHEEL MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P65 0.00	PUMPS, WATER, DIAPHRAGM																									
P65 0.11	SKID MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P65 0.12	SKID MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P65 0.21	WHEEL MOUNTED, ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P65 0.22	WHEEL MOUNTED, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P70 0.00	PUMPS, WATER (FOR CORE DRILLS)																									
P70 0.01	ENGINE DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
P70 0.02	ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90																
R10 0.00	RIPPERS & HYDRAULIC BANK SLOPERS(no point wear included)		1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83																
R15 0.00	ROLLERS, STATIC, TOWED, PNEUMATIC		1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.88	0.93	0.92														
R20 0.00	ROLLERS, STATIC, TOWED, STEEL DRUM		1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.88	0.93	0.92														
R30 0.00	ROLLERS, STATIC, SELF-PROPELLED																									
R30 0.01	PNEUMATIC		1.05	1.03	1.01	1.00	0.98	0.94	0.89	0.88																
R30 0.02	SMOOTH DRUM		1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.88	0.93	0.92														
R30 0.03	TAMPING FOOT		1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.88	0.93	0.92														
R40 0.00	ROLLERS, VIBRATORY, TOWED		1.05	1.03	1.01	1.00	0.98	0.94	0.89	0.88																
R45 0.00	ROLLERS, VIBRATORY, SELF-PROPELLED, DOUBLE DRUM		1.05	1.03	1.01	1.00	0.98	0.94	0.89	0.88																
R50 0.00	ROLLERS, VIBRATORY, SELF-PROPELLED, SINGLE DRUM		1.05	1.03	1.01	1.00	0.98	0.94	0.89	0.88																
R55 0.00	ROOFING EQUIPMENT		1.07	1.04	1.02	1.00	0.97	0.95																		
S10 0.00	SCRAPERS, ELEVATING																									
S10 0.01	0 THRU 200 HP		1.09	1.05	1.02	1.00	0.94	0.92	0.89	0.83	0.79	0.76														
S10 0.02	OVER 200 HP		1.08	1.04	1.02	1.00	0.94	0.92	0.89	0.83	0.80	0.77														
S15 0.00	SCRAPERS, CONVENTIONAL		1.08	1.04	1.02	1.00	0.94	0.92	0.90	0.84	0.81	0.78	0.75	0.71	0.69	0.66	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.64		
S20 0.00	SCRAPERS, TANDEM POWERED		1.08	1.04	1.02	1.00	0.94	0.92	0.90	0.84	0.81	0.78	0.75	0.71	0.69	0.66	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.64		

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years							Year Purchased New													
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982			
S25 0.00	SCRAPERS, TRACTOR DRAWN		1.08	1.05	1.02	1.00	0.94	0.92	0.89	0.83	0.80	0.76	0.73	0.69									
S30 0.00	SCREENING & CRUSHING PLANTS																						
S30 0.10	CONVEYORS		1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85											
S30 0.20	CRUSHERS		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85											
S30 0.30	SCREENING PLANT		1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85											
S35 0.00	SNOW REMOVAL EQUIPMENT		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
S40 0.00	SOIL & ROAD STABILIZERS		1.09	1.05	1.02	1.00	0.94	0.92	0.89	0.83	0.79	0.76											
S45 0.00	SPLITTERS, ROCK & CONCRETE		1.07	1.05	1.02	1.00	0.97	0.95															
T10 0.00	TRACTOR BLADES & ATTACHMENTS		1.07	1.04	1.02	1.00	0.96	0.93	0.89	0.83	0.81	0.78											
T15 0.00	TRACTORS, CRAWLER (DOZER) (includes blade)																						
T15 0.01	0 THRU 225 HP		1.07	1.04	1.02	1.00	0.96	0.92	0.88	0.83	0.80	0.77											
T15 0.02	226 HP THRU 425 HP		1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.81	0.79	0.76	0.71	0.66	0.63	0.63	0.64	0.64	0.61			
T15 0.03	OVER 425 HP		1.06	1.04	1.02	1.00	0.97	0.93	0.90	0.85	0.82	0.80	0.77	0.72	0.68	0.65	0.65	0.65	0.65	0.63			
T20 0.00	TRACTORS, WHEEL TYPE (DOZER)		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93	0.91	0.90	0.87	0.85									
T25 0.00	TRACTORS, AGRICULTURAL																						
T25 0.10	CRAWLER		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93	0.91	0.90											
T25 0.20	WHEEL		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93													
T30 0.00	TRENCHERS, CHAIN TYPE CUTTER		1.08	1.06	1.02	1.00	0.98	0.95	0.89	0.85													
T35 0.00	TRENCHERS, WHEEL TYPE CUTTER		1.08	1.06	1.02	1.00	0.98	0.95	0.89	0.85	0.84	0.82											
T40 0.00	TRUCK OPTIONS																						
T40 0.10	CRANES / HOISTS, PERSONNEL & MATERIAL HANDLING		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
T40 0.20	DUMP BODY, REAR		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
T40 0.30	FLATBEDS, WITH SIDES		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
T40 0.41	HOIST, ELECTRIC DRIVE		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
T40 0.50	TRANSIT MIXERS		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91													
T40 0.60	WATER TANKS		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													
T40 0.70	ALL OTHER OPTIONS		1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91													

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years							Year Purchased New														
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982							
T45 0.00	TRUCK TRAILERS																							
T45 0.10	BOTTOM DUMP		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85												
T45 0.20	END DUMP		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85												
T45 0.30	PUP TRAILER		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91														
T45 0.41	LOWBOY, RIGID NECK, DROP DECK		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90	0.86	0.83												
T45 0.50	FLATBED TRAILER		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90	0.86	0.83												
T45 0.60	MISCELLANEOUS / UTILITY		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90	0.86	0.83												
T45 0.70	WATER TANKER TRAILER		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90	0.86	0.83												
T45 0.80	DECONTAMINATION FACILITY		1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.90														
T45 0.90	TANK TRAILERS		1.07	1.05	1.02	1.00	0.97	0.94	0.93	0.90	0.86	0.83												
T50 0.00	TRUCKS, HIGHWAY (add attachments as required)																							
T50 0.01	0 THRU 10,000 GVW		0.96	0.97	0.98	1.00	0.99	0.96	0.92															
T50 0.02	OVER 10,000 THRU 30,000 GVW(CHASSIS ONLY-ADD OPTIONS)		0.96	0.97	0.98	1.00	0.99	0.96	0.92	0.86														
T50 0.03	OVER 30,000 GVW (CHASSIS ONLY-ADD OPTIONS)		0.96	0.97	0.98	1.00	0.99	0.97	0.92	0.87														
T55 0.00	TRUCKS, OFF-HIGHWAY		1.07	1.04	1.03	1.00	0.97	0.91	0.88	0.87	0.86	0.84	0.80	0.74	0.70	0.69	0.68	0.68	0.67	0.65				
T56 0.00	TRUCKS, OFF-HIGHWAY/PRIME MOVER TRACTORS & WAGONS																							
T56 0.10	PRIME MOVER TRACTORS		1.07	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.84	0.79	0.73	0.69	0.68	0.68	0.67	0.66	0.64				
T56 0.20	WAGONS, BOTTOM DUMP		1.07	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.73	0.69	0.68	0.67							
T56 0.30	WAGONS, REAR DUMP		1.08	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.72										
T57 0.00	TRUCKS, VACUUM		1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85												
T60 0.00	TRUCKS, WATER, OFF-HIGHWAY		1.08	1.04	1.03	1.00	0.96	0.90	0.87	0.86	0.85	0.82	0.78	0.71										
T65 0.00	TUNNEL/MINING EQUIPMENT																							
T65 0.10	DRIFTING & TUNNELING DRILLS		1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.77	0.77								
T65 0.20	TUNNEL BORING MACHINES		1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69				
T65 0.30	PRODUCTION DRILLING RIGS		1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.77										
T65 0.40	ROADHEADERS & CONTINUOUS MINERS		1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72						
T65 0.50	ROCK BOLTING EQUIPMENT		1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85												

Table 3-1 Equipment Age Adjustment Factors for Ownership Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years								Year Purchased New														
			0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982					
T65	0.61	LOADING & HAULING EQUIPMENT, DIESEL OR GAS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77											
T65	0.62	LOADING & HAULING EQUIPMENT, ELECTRIC	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.81	0.77	0.75	0.73									
T65	0.63	LOADING & HAULING EQUIPMENT, AIR-POWERED	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84													
T65	0.70	LOCOMOTIVES	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77											
T65	0.90	OTHER TUNNELING EQUIPMENT	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85													
W10	0.00	WAGONS, BOTTOM DUMP	1.08	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.72											
W15	0.00	WAGONS, REAR DUMP	1.08	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.72											
W25	0.00	WATER & CO ₂ BLASTERS																							
W25	0.10	LOW PRESSURE, (< 5,000 PSI)	1.07	1.05	1.02	1.00																			
W25	0.20	HIGH PRESSURE, (>= 5,000 PSI)	1.07	1.05	1.02	1.00	0.97	0.95																	
W25	0.30	STEAM CLEANERS	1.07	1.05	1.02	1.00																			
W25	0.40	CO ₂ BLASTERS	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91															
W30	0.00	WATER TANKS																							
W30	0.10	PORTABLE WITH WHEELS	1.08	1.04	1.03	1.00	0.96	0.90	0.87	0.86	0.85	0.82	0.78	0.71											
W30	0.20	SKID MOUNTED	1.08	1.04	1.03	1.00	0.96	0.90	0.87	0.86	0.85	0.82	0.78	0.71											
W35	0.00	WELDERS																							
W35	0.10	ENGINE DRIVEN	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.90															
W35	0.20	ELECTRIC DRIVEN	1.07	1.05	1.02	1.00	0.97	0.94																	

TOTAL HOURLY RATE CALCULATION FOR OVERAGE EQUIPMENT

EXAMPLE

Assume the following set of given information for the rate calculation example:

- A. The unit of equipment is not listed in TABLE 2-1
- B. The equipment is contractor-owned
- C. Data for the unit in question:
 - 1. Clark front-end wheel loader
 - 2. Model 125C, 4WD, 4 CY capacity
 - 3. Serial number indicates year of manufacture = 1982
 - 4. Actual purchase price in 1982 = \$168,000
 - 5. Horsepower is 203 hp
 - 6. Drive tire size = 23.50 x 25, 16 Ply, L-3

$$\text{Drive tire cost (1999)} = 4 \text{ tires} \times \$1,711 = \$6,844$$

- D. TABLE 3-1, Age Adjustment Factors for Ownership Costs:
 - 1. Category L40 Sub Category 0.11 (wheel loaders < 225 hp)
 - 2. The year corresponding to the last age adjustment factor = 1990
- E. Adjust the actual purchase price:
 - 1. Economic Indexes from APPENDIX E (wheel loaders EK = 45)
 - a. For 1990 (first year of economic life) the economic index = 4532
 - b. For 1982 (year of manufacture) the economic index = 3788
 - 2. Purchase price (TEV) indexed to 1990 (first year of economic life):
(Purchase price includes discount, sales tax & freight)
$$(4532/3788) \times \$168,000 = \$200,997 (=1990 purchase price)$$
- F. Hourly rate is computed as follows in accordance with Figure 2-1, Equipment Rate Computation Worksheet

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

Use this worksheet to compute rates for equipment that is not in this pamphlet.

1. EQUIPMENT INFORMATION & EXPENSE FACTORS

<i>For ID No. _____</i>	N/A
a. Equipment Specification Data:	
(1) Equipment Description:	CLARK FRONT-END WHEEL LOADER
(2) Model and Series:	125 C, 4WD, 4 C.Y.
(3) Present Year or Year of Use:	1999
(4) Year Manufactured:	1982 (first year of economic life = 1990)
(5) Horsepower - Equipment:	203
(6) Horsepower - Carrier:	N/A
(7) Fuel type: - Equipment:	gas / diesel off-road / diesel on-road / electric / air <u>D-OFF</u>
- Carrier:	gas / diesel off-road / diesel on-road / electric / air <u>N/A</u>
(8) Shipping Weight (CWT):	367 CWT
(9) Tire size and number of tires: (Cost of tires based on present year - see 1.a.(3) & APPENDIX F)	
(a) Front:	No.: <u>N/A</u> Size/Ply: _____ Cost: \$ _____
(b) Drive:	No.: <u>4</u> Size/Ply: <u>23.5 X 25, 16 Ply</u> Cost: \$ <u>6,844</u>
(c) Trailing:	No.: <u>N/A</u> Size/Ply: _____ Cost: \$ _____
(d) Total Tire Cost:	\$ <u>6,844</u>

USE APPENDIX D TO COMPLETE THE FOLLOWING DATA:

b. Category and Sub-category Number:	L 4 0 0.11
c. Hourly Expense Calculation Factors:	
(1) Economic Key (E K):	45
(2) Condition (C):	Average or Severe AVERAGE
(3) Discount Code (DC):	B = 7.5% (0.075) - or - S = 15.0% (0.15) B = .075
(4) Life in Hours (LIFE):	10,000
(5) Salvage Value Percentage (SLV):	0.25
(6) Fuel Factor - Equipment (E G D):	0.033
(7) Fuel Factor - Carrier (E G D):	N/A
(8) FOG Factor (E G D):	0.445
(9) Tire Wear Factor:	
(a) Front (FT):	N/A
(b) Drive (DT):	(SEE 9(b)) 0.42
(c) Trailing (TT):	N/A
(10) Repair Cost Factor (RCF):	0.70

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

2. EQUIPMENT VALUE

a. List Price + Accessories: (at Year of Manufacture) = \$ _____ ---

$$(1) \text{ Discount: } (\text{List Price}) \times (\text{Discount Code}) \quad [\text{1.c.(3)}]$$

$$(\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}}) = -(\underline{\hspace{2cm}})$$

$$(2) \text{ Subtotal } [2.a.] - [2.a.(1)] \quad S/T = \$ \underline{\hspace{2cm}}$$

$$(3) \text{ Sales or Import Tax: } (\text{Subtotal}) \times (\text{Tax Rate}) \quad [\text{2.a.(2)}] \quad [\text{APPENDIX B}]$$

$$(\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}}) = +(\underline{\hspace{2cm}})$$

$$(4) \text{ Total Discounted Price: } \text{Subtotal: } [2.a.(2)] + [2.a.(3)] \quad S/T = \$ \underline{\hspace{2cm}}$$

b. Freight: (Shipping Weight) \times (Freight Rate per CWT) $\quad [\text{1.a.(8)}] \quad [\text{APPENDIX B}]$

$$(\underline{\hspace{2cm}} \text{ CWT}) \times (\underline{\hspace{2cm}}) = +(\underline{\hspace{2cm}})$$

c. **TOTAL EQUIPMENT VALUE (TEV):** **2. TOTAL: = \$ 200,997**
 $[\text{(2.a.(4)}] + [\text{(2.b)}]$

(See Chapter 3 for used and overage equipment rate adjustments.)

3. DEPRECIATION PERIOD (N)

$$a. (\text{LIFE}) / (\text{Working Hours Per Year (WHPY)}) = N \quad [\text{1.c.(4)}] \quad [\text{APPENDIX B}]$$

$$(\underline{10,000} \text{ Hrs}) / (\underline{1040} \text{ Hrs/Yr}) \quad 3. \text{ TOTAL: = } \underline{9.615} \text{ Yrs(N)}$$

4. OWNERSHIP COST

a. Depreciation

(1) Tire Costs Index (TCI):

$$(\text{Tire Index, Yr of Mfgr}) / (\text{Tire Index, Based on 1a.(3)}) = \text{Tire Cost Index (TCI)} \quad [\text{APPENDIX E, EK=100}] \quad [\text{APPENDIX E, EK=100}]$$

$$(\underline{2470} \text{ (for 1990)}) / (\underline{2400} \text{ (for 1999)}) = \underline{1.029} \text{ (TCI)}$$

$$(2) [(\text{TEV}) \times [1.0 - (\text{SLV})]] - [(\text{TCI}) \times (\text{Tire Cost})] / (\text{LIFE}) \quad [\text{2.c.}] \quad [\text{1.c.(5)}] \quad [\text{4.a. (1)}] \quad [\text{1.a.(9)(d)}] \quad [\text{1.c.(4)}]$$

$$[(\underline{200,997}) \times [1.0 - (.25)]] - [(\underline{1.029}) \times (\underline{6.844})] / (\underline{10,000}) \\ = \$ \underline{14.37} / \text{Hr}$$

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Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

4. OWNERSHIP COST (Continued)

b. Facilities Capital Cost of Money (FCCM):

$$(1) [[(\frac{N}{3.a.}) - 1.0] \times [1.0 + (\text{SLV})] + 2.0] / [2.0 \times (\frac{N}{3.a.})] = \text{Avg Value Factor (AVF)}$$

$$[[(\underline{9.615} \text{ Yrs}) - 1.0] \times [1.0 + (\underline{0.25})] + 2.0] / [2.0 \times (\underline{9.615} \text{ Yrs})] = \underline{\underline{0.664}} \text{ (AVF)}$$

$$(2) (\frac{\text{TEV}}{[2.c.]}) \times (\frac{\text{AVF}}{[4.b.(1)]}) \times (\text{Adjusted Cost-of-Money}) / (\frac{\text{WHPY}}{[\text{APPENDIX B}]})$$

$$(\underline{200,997}) \times (\underline{0.664}) \times (\underline{0.04}) / (\underline{1040} \text{ Hrs/Yr}) \\ = \$ \underline{\underline{5.13}} \text{ /Hr}$$

c. **TOTAL HOURLY OWNERSHIP COST:** $[4.a.(2)] + [4.b.(2)]$

4. TOTAL: = \$ 19.50 /Hr

5. OPERATING COST

a. Fuel Costs:

(1) Equipment:

$$(\text{Fuel Factor}) \times (\text{Horsepower}) \times (\text{Fuel Cost Per Gallon}) \\ [\text{1.c.(6)}] \quad [\text{1.a.(5)}] \quad [\text{APPENDIX B}]$$

$$(\underline{0.033}) \times (\underline{203} \text{ HP}) \times (\underline{1.00} \text{ /Gal}) = \$ \underline{\underline{6.70}} \text{ /Hr}$$

(2) Carrier:

$$(\text{Fuel Factor}) \times (\text{Horsepower}) \times (\text{Fuel Cost Per Gallon}) \\ [\text{1.c.(7)}] \quad [\text{1.a.(6)}] \quad [\text{APPENDIX B}]$$

$$(\underline{---}) \times (\underline{---} \text{ HP}) \times (\underline{---} \text{ /Gal}) = \$ \underline{\underline{---}} \text{ /Hr}$$

(3) Total Hourly Fuel Costs: $[5.a.(1)] + [5.a.(2)]$

Total 5.a. = \$ 6.70 /Hr

b. FOG Cost:

(1) Equipment:

$$(\text{FOG Factor}) \times (\text{Equipment Fuel Cost}) \times (\text{LAF}) \\ [\text{1.c.(8)}] \quad [\text{5.a.(1)}] \quad [\text{APPENDIX B}]$$

$$(\underline{0.445}) \times (\underline{6.70} \text{ /Hr}) \times (\underline{1.24}) = \$ \underline{\underline{3.70}} \text{ /Hr}$$

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

5. OPERATING COST (Continued)

(2) Carrier:

$$(\text{FOG Factor}) \times (\text{Carrier Fuel Cost}) \times (\text{LAF}) \\ [\text{1.c.(8)}] \quad [\text{5.a.(2)}] \quad [\text{APPENDIX B}]$$

$$(\underline{\quad ---\quad}) \times (\underline{\quad ---\quad}/\text{Hr}) \times (\underline{\quad ---\quad}) = \$ \underline{\quad ---\quad} \text{ Hr}$$

$$\text{(3) Total Hourly Fog Cost:} \quad \text{Total 5.b.} = \$ \underline{\quad 3.70\quad} / \text{Hr} \\ [\text{5.b.(1)}] + [\text{5.b.(2)}]$$

c. Alternative Fuel/FOG Cost:

$$\text{Total 5.c.} = \$ \underline{\quad ---\quad} / \text{Hr}$$

(See Chapter 2, paragraph 24.d. for guidance on when to use.)

d. Repair Cost:

(1) Economic Adjustment Factor (EAF):
 (EK is from [1 c. (1)])

$$(\text{Economic Index for Year 1a.(3)}) / (\text{Economic Index for Year 1a.(4)}) \\ [\text{APPENDIX E}] \quad (\text{for 1999}) \quad [\text{APPENDIX E}] \quad (\text{for 1990})$$

$$(\underline{\quad 5,505\quad}) / (\underline{\quad 4532\quad}) = \underline{\quad 1.215\quad} (\text{EAF})$$

(See TABLE 3-2 for last year of economic life)

(2) Repair Factor (RF):

$$(\text{RCF}) \times (\text{EAF}) \times (\text{LAF}) = \text{Repair Factor (RF)} \\ [\text{1.c.(10)}] \quad [\text{5.d.(1).}] \quad [\text{APPENDIX B}]$$

$$(\underline{\quad 0.70\quad}) \times (\underline{\quad 1.215\quad}) \times (\underline{\quad 1.24\quad}) = \underline{\quad 1.055\quad} (\text{RF})$$

(3) Repair Cost

$$[(\text{TEV}) - [(\text{TCI}) \times (\text{Tire Cost})]] \times (\text{RF}) / (\text{LIFE}) \\ [\text{2.c.}] \quad [\text{4.a. (1)}] \quad [\text{1.a.(9)(d)}] \quad [\text{5.d.(2)}] \quad [\text{1.c.(4)}]$$

$$[(\underline{\quad 200,997\quad}) - [(\underline{\quad 1.029\quad}) \times (\underline{\quad 6,844\quad})]] \times (\underline{\quad 1.055\quad}) / (\underline{\quad 10,000\quad})$$

$$\text{(4) Total Hourly Repair Cost:} \quad \text{Total 5.d.} = \$ \underline{\quad 20.46\quad} / \text{Hr}$$

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

5. OPERATING COST (Continued)

e. Tire Wear Cost: (Use current price levels. See APPENDIX F)

(1) Front Tires:

$$[1.5 \times (\text{FT Cost})] / [1.8 \times (\text{FT Wear Factor}) \times (\text{Maximum Tire Life/Hrs})]$$

[1.a.(9)(a)] [1.c.(9)(a)] [APPENDIX G]

$$[1.5 \times (\underline{\hspace{2cm}})] / [1.8 \times (\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}} / \text{Hrs})] = \$ \underline{\hspace{2cm}} / \text{Hr}$$

(2) Drive Tires:

$$[1.5 \times (\text{DT Cost})] / [1.8 \times (\text{DT Wear Factor}) \times (\text{Maximum Tire Life/Hrs})]$$

[1.a.(9)(b)] [1.c.(9)(b)] [APPENDIX G]

$$[1.5 \times (\underline{\hspace{2cm}} 6,844)] / [1.8 \times (\underline{\hspace{2cm}} 0.42) \times (\underline{\hspace{2cm}} 5,000) / \text{Hrs}] = \$ \underline{\hspace{2cm}} 2.72 / \text{Hr}$$

(3) Trailing Tires:

$$[1.5 \times (\text{TT Cost})] / [1.8 \times (\text{TT Wear Factor}) \times (\text{Maximum Tire Life/Hrs})]$$

[1.a.(9)(c)] [1.c.(9)(c)] [APPENDIX G]

$$[1.5 \times (\underline{\hspace{2cm}})] / [1.8 \times (\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}} / \text{Hrs})] = \$ \underline{\hspace{2cm}} / \text{Hr}$$

(4) Total Tire Wear Cost:

[Sum 5.e.(1) through 5.e.(3)] Total 5.e. = \$ 2.72 /Hr

f. Tire Repair Cost:

$$(\text{Total Tire Wear}) \times 0.15 \times (\text{LAF})$$

[5.e.(4)] [APPENDIX B]

$$(\underline{\hspace{2cm}} 2.72) \times 0.15 \times (\underline{\hspace{2cm}} 1.24) \quad \text{Total 5.f.} = \$ \underline{\hspace{2cm}} 0.51 / \text{Hr}$$

g. **TOTAL HOURLY OPERATING COST:**

[Sum 5.a. through 5.f.]

5. TOTAL: \$ 34.09 /Hr

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

6. HOURLY RATES

a. Total Hourly Rate: *(based on 40 hours per week)*

$$(\text{Ownership Cost}) + (\text{Operating Cost}) \\ [4.c.] \qquad \qquad \qquad [5.g.]$$

$$(\underline{19.50} /Hr) + (\underline{34.09} /Hr)$$

$$= \$ \underline{53.59} /Hr$$

b. Other Work Shifts Hourly Rate :

(Refer to Chapter 3, Adjustments to Rates, for methodology.)

$$[(\text{Depreciation}) + [(\text{FCCM}) \times (40 \text{ hrs/wk}) / (\text{Work Hrs/wk})] + (\text{Operating Costs})] \\ [4.a.(2)] \qquad [4.b.(2)] \qquad \qquad \qquad (\text{example: } 60 \text{ hrs/wk}) \qquad [5.g.]$$

$$[(\underline{\hspace{2cm}} /Hr) + [(\underline{\hspace{2cm}} /Hr) \times (40 \text{ Hrs/wk}) / (\underline{\hspace{2cm}} \text{Hrs/wk})] + (\underline{\hspace{2cm}} /Hr)]$$

$$= \$ \underline{N/A} /Hr$$

c. Standby Hourly Rate:

$$[(\text{Depreciation}) \times 0.50] + (\text{FCCM}) \\ [4.a.(2)] \qquad \qquad \qquad [4.b.(2)]$$

$$[(\underline{\hspace{2cm}} /Hr) \times 0.50] + (\underline{\hspace{2cm}} /Hr)$$

$$= \$ \underline{N/A} /Hr$$

**FOR CALCULATION OF OVERAGE EQUIPMENT STANDBY RATE,
 SEE FIGURE 3-2.**

See Chapter 3 if rate adjustments are necessary.

Figure 3-1. Total Hourly Rate Calculation for Overage Equipment

TABLE 3-2
EQUIPMENT AGE ADJUSTMENT FACTORS
FOR
STANDBY COSTS

THE "Age Adjustment Factors for Standby Costs" in TABLE 3-2 are used when the age of a unit of equipment is other than the age of the unit of equipment listed in TABLE 2-1.

The factors given in TABLE 3-2 are multiplied by the hourly standby costs shown in TABLE 2-1 and result in an standby rate adjusted for the actual age of the equipment being considered.

When the "life" of the unit of equipment has exceeded the economic service life given in APPENDIX D, the age will be determined as discussed in Chapter 3, Adjustments to Hourly Rates

Refer to Chapter 3, as follows:

3-13. Rate Adjustments Overage Equipment Standby

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years								Year Purchased New													
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982				
A10 0.00	AGGREGATE / CHIP SPREADERS																						
A10 0.10	SELF-PROPELLED	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.75				
A10 0.20	TOWED & TAILGATE	1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85	0.82	0.79	0.77	0.76	0.76	0.73	0.72	0.74				
A15 0.00	AIR COMPRESSORS, PORTABLE																						
A15 0.10	ROTARY SCREW	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.94	0.94	0.90	0.86	0.82	0.81	0.82	0.79	0.80	0.78				
A15 0.20	SHOP TYPE	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.95	0.94	0.91	0.86	0.82	0.82	0.83	0.80	0.81	0.79				
A20 0.00	AIR HOSE, TOOLS & EQUIPMENT																						
A20 0.10	AIR HOSE	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.95	0.94	0.91	0.86	0.82	0.82	0.83	0.80	0.81	0.79				
A20 0.20	SANDBLAST HOSE	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.95	0.94	0.91	0.86	0.82	0.82	0.83	0.80	0.81	0.79				
A20 0.30	SANDBLASTERS, BREAKERS, & MISC. AIR TOOLS	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.94	0.94	0.90	0.85	0.81	0.80	0.81	0.78	0.79	0.77				
A25 0.00	ASPHALT PAVING DISTRIBUTORS	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.86	0.82	0.80	0.78	0.76	0.76	0.74	0.73	0.74				
A30 0.00	ASPHALT PAVERS & MISCELLANEOUS ROAD EQUIPMENT																						
A30 0.10	SELF PROPELLED	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.75				
A30 0.20	TOWED	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.75				
A30 0.30	SLURRY SEAL PAVERS (COLD MIX)	1.09	1.06	1.03	1.00	0.98	0.95	0.94	0.90	0.91	0.86	0.83	0.81	0.79	0.77	0.77	0.75	0.74	0.75				
A30 0.40	MISCELLANEOUS ROAD EQUIPMENT	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.75				
A35 0.00	ASPHALT PAVING KETTLES	1.10	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.85	0.82	0.79	0.77	0.76	0.76	0.73	0.72	0.74				
A40 0.00	ASPHALT & CONCRETE MILLERS / PROFILERS / PLANERS	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.75				
A45 0.00	ASPHALT RECYCLERS & SEALERS	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.90	0.86	0.82	0.80	0.78	0.76	0.76	0.74	0.73	0.74				
B10 0.00	BATCH PLANTS (ASPHALT & CONCRETE)																						
B10 0.10	ASPHALT	1.09	1.06	1.03	1.00	0.98	0.95	0.94	0.90	0.91	0.86	0.83	0.81	0.79	0.78	0.78	0.75	0.74	0.75				
B10 0.20	CONCRETE	1.09	1.06	1.03	1.00	0.98	0.95	0.94	0.90	0.91	0.86	0.83	0.81	0.79	0.78	0.78	0.75	0.74	0.75				
B10 0.30	PUGMILL	1.09	1.06	1.03	1.00	0.98	0.95	0.94	0.90	0.91	0.86	0.83	0.81	0.79	0.78	0.78	0.75	0.74	0.75				
B15 0.00	BROOMS, STREET SWEEPERS & FLUSHERS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68				
B20 0.00	BRUSH CHIPPERS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68				
B25 0.00	BUCKETS, CLAMSHELL	1.04	1.02	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.82	0.77	0.70	0.68	0.67	0.66	0.64	0.63	0.64				
B30 0.00	BUCKETS, CONCRETE																						

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years										Year Purchased New																
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982									
B30 0.10	GENERAL PURPOSE, MANUAL TRIP	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.81	0.76	0.69	0.67	0.66	0.65	0.63	0.62	0.63									
B30 0.20	LAYDOWN	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.81	0.76	0.69	0.67	0.66	0.65	0.63	0.62	0.63									
B30 0.30	LOWBOY	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.81	0.76	0.69	0.67	0.66	0.65	0.63	0.62	0.63									
B30 0.40	LOW SLUMP	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.81	0.76	0.69	0.67	0.66	0.65	0.63	0.62	0.63									
B35 0.00	BUCKETS, DRAGLINE																											
B35 0.10	LIGHT WEIGHT	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.82	0.76	0.69	0.68	0.67	0.65	0.64	0.63	0.64									
B35 0.20	MEDIUM WEIGHT	1.04	1.03	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.82	0.77	0.69	0.68	0.67	0.66	0.64	0.63	0.64									
B35 0.30	HEAVY WEIGHT	1.04	1.02	1.02	1.00	0.98	0.98	0.98	0.94	0.86	0.82	0.77	0.70	0.68	0.67	0.66	0.64	0.63	0.64									
C05 0.00	CHAIN SAWS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.69	0.68									
C10 0.00	COMPACTORS & WALK-BEHIND ROLLERS																											
C10 0.10	COMPACTORS, RAMMERS / TAMPER & VIBRATORY PLATES	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C10 0.20	ROLLERS, VIBRATORY	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C15 0.00	CONCRETE CLEANERS / BLASTERS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67									
C20 0.00	CONCRETE BUGGIES	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C25 0.00	CONCRETE FINISHERS/SCREEDS/SPREADERS																											
C25 0.10	FINISHERS/TROWELS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C25 0.20	VIBRATORY SCREED	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C25 0.25	VIBRATORY LASER SCREED	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84	0.80	0.76	0.73	0.71	0.70	0.69	0.67	0.65									
C25 0.30	MATERIAL/TOPPING SPREADERS	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84	0.80	0.76	0.73	0.71	0.70	0.69	0.67	0.65									
C30 0.00	CONCRETE GRINDERS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C35 0.00	CONCRETE GUNITERS / SHOTCRETTERS	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.76	0.74	0.73	0.71	0.70	0.68	0.66								
C40 0.00	CONCRETE MIXING UNITS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66									
C45 0.00	CONCRETE PAVING MACHINES	1.09	1.07	1.03	1.00	0.98	0.95	0.93	0.90	0.91	0.86	0.83	0.80	0.78	0.77	0.77	0.74	0.73	0.70	0.69	0.67							
C55 0.00	CONCRETE PUMPS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69	0.67								
C60 0.00	CONCRETE SAWS (sawblade wear not included)	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67									
C65 0.00	CONCRETE VIBRATORS	1.01	1.01	1.00	1.00	0.99	0.97	0.98	0.97	0.94	0.94	0.90	0.85	0.81	0.80	0.81	0.78	0.79	0.77									
C70 0.00	CRANES, GANTRY & STRADDLE																											

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years					Year Purchased New												
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982
C75 0.00	CRANES, HYDRAULIC, SELF-PROPELLED	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
C80 0.00	CRANES, HYDRAULIC, TRUCK MOUNTED																		
C80 0.01	UNDER 26 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
C80 0.02	26 TON THRU 65 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.63
C80 0.03	66 TON THRU 125 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63
C80 0.04	OVER 125 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.63
C85 0.00	CRANES, MECHANICAL, LATTICE BOOM, CRAWLER MOUNTED																		
C85 0.11	DRAGLINE, CLAMSHELL, 0 THRU 1.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.67	0.66	0.64	0.63	0.62
C85 0.12	DRAGLINE, CLAMSHELL, OVER 1.0 CY THRU 2.5 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
C85 0.13	DRAGLINE, CLAMSHELL, OVER 2.5 CY THRU 5.0 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.63
C85 0.14	DRAGLINE, CLAMSHELL, OVER 5.0 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63
C85 0.21	LIFTING, 0 THRU 25 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.63	0.62
C85 0.22	LIFTING, 26 TON THRU 50 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
C85 0.23	LIFTING, 51 TON THRU 150 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63
C85 0.24	LIFTING, OVER 150 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.63
C90 0.00	CRANES, MECHANICAL, LATTICE BOOM, TRUCK MOUNTED																		
C90 0.01	UNDER 26 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
C90 0.02	26 TON THRU 65 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.63
C90 0.03	66 TON THRU 125 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63
C90 0.04	OVER 125 TON	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.63
C95 0.00	CRANES, TOWER	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62
D10 0.00	DRILLS,AIR/HYDRAULIC,CRWLR MTD,0" THRU 6.5" DIA HOLE	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.77	0.77	0.78	0.77	0.78	0.78
D15 0.00	DRILLS, HORIZONTAL BORING & GROUND PIERCING	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.77	0.77	0.78	0.77	0.78	0.78
D20 0.00	DRILLS, CORE, COLUMN MOUNTED	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.82	0.77	0.77	0.76	0.78	0.77	0.78	0.77
D25 0.00	DRILLS, CORE, SKID MOUNTED	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.77	0.77	0.78	0.77	0.78	0.78
D30 0.00	DRILLS, EARTH / AUGER	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.77	0.77	0.78	0.77	0.78	0.78
D35 0.00	DRILLS, ROTARY BLASTHOLE																		

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years					Year Purchased New												
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982
D35 0.11	DIESEL, 4.5" THRU 9.875" DIAMETER HOLE	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.78	0.78	0.79	0.78	0.79	0.78
D35 0.12	DIESEL, OVER 9.875" DIAMETER	1.06	1.03	1.02	1.00	0.96	0.94	0.93	0.90	0.89	0.87	0.84	0.79	0.78	0.78	0.80	0.79	0.80	0.79
D35 0.21	ELECTRIC, 4.5" THRU 9.875" DIAMETER HOLE	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.78	0.78	0.79	0.78	0.79	0.78
D35 0.22	ELECTRIC, OVER 9.875" DIAMETER	1.06	1.03	1.02	1.00	0.96	0.94	0.93	0.90	0.89	0.87	0.84	0.79	0.78	0.78	0.80	0.79	0.80	0.79
F10 0.00	FORK LIFTS	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68
G10 0.00	GENERATOR SETS																		
G10 0.10	PORTABLE	1.00	1.00	0.99	1.00	0.99	0.96	0.95	0.93	0.92	0.90	0.88	0.82	0.77	0.76	0.76	0.73	0.71	0.69
G10 0.20	SKID MOUNTED	1.00	1.00	0.99	1.00	0.99	0.96	0.95	0.93	0.92	0.91	0.88	0.82	0.78	0.76	0.76	0.73	0.71	0.70
G15 0.00	GRADERS, MOTOR	1.08	1.04	1.02	1.00	0.94	0.92	0.90	0.84	0.81	0.78	0.75	0.71	0.69	0.66	0.65	0.63	0.63	0.62
H10 0.00	HAMMERS, HYDRAULIC (DEMOLITION TOOL)	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67
H13 0.00	HAZARD/TOXIC WASTE EQUIPMENT																		
H13 0.11	COMPACTORS (COMPRESSION FORCE) 0 THRU 50 TONS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.12	COMPACTORS (COMPRESSION FORCE) OVER 50 TONS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.21	FILTER PRESSES, STATIONARY	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68
H13 0.22	FILTER PRESSES, MOBILE	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.30	CENTRIFUGES	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91	0.87	0.84	0.81	0.76	0.74	0.72	0.71	0.69	0.68	0.66
H13 0.40	SHREDDERS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.51	SOIL TREATMENT PLANT, MOBILE	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.61	SLUDGE PROCESSING EQUIP, SLUDGE DISPENSERS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
H13 0.71	WASTE HANDLING EQUIPMENT, DRUM HANDLING	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.69	0.68
H15 0.00	HEATERS, SPACE																		
H20 0.00	HOISTS & AIR WINCHES	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
H25 0.00	HYDRAULIC EXCAVATORS, CRAWLER MOUNTED																		
H25 0.11	0 LBS THRU 40,000 LBS	1.08	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.80	0.76	0.70	0.68	0.65	0.63	0.62	0.60	0.59
H25 0.12	OVER 40,000 LBS THRU 100,000 LBS	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.84	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.62	0.61
H25 0.13	OVER 100,000 LBS THRU 160,000 LBS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63
H25 0.14	OVER 160,000 LBS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.73	0.71	0.68	0.67	0.65	0.64	0.63

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years								Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982						
H25 0.21	ATTACHMENTS, MOBILE SHEARS	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68						
H25 0.22	ATTACHMENTS, MATERIAL HANDLING	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67						
H25 0.23	ATTACHMENTS, CONCRETE PULVERIZERS	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68						
H25 0.24	ATTACHMENTS, COMPACTORS	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68						
H30 0.00	HYDRAULIC EXCAVATORS, WHEEL MOUNTED																								
H30 0.01	0 THRU 1.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.80	0.76	0.70	0.68	0.65	0.63	0.62	0.61	0.59						
H30 0.02	OVER 1.0 CY	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61						
H35 0.00	HYDRAULIC SHOVELS, CRAWLER MOUNTED																								
H35 0.11	DIESEL, 0 CY THRU 5.0 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62						
H35 0.12	DIESEL, OVER 5.0 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.63						
H35 0.21	ELECTRIC, OVER 2.5 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.78	0.72	0.70	0.68	0.66	0.65	0.64	0.62						
L10 0.00	LAND CLEARING EQUIPMENT	1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.82	0.79	0.76	0.71	0.67	0.64	0.64	0.64	0.64	0.61						
L15 0.00	LANDSCAPING EQUIPMENT	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.69	0.68						
L20 0.00	LIGHTING SETS, TRAILER MOUNTED																								
L20 0.10	METALLIC VAPOR	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
L25 0.00	LINE STRIPING EQUIPMENT	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
L30 0.00	LOADERS, BELT (CONVEYOR BELTS) & ACCESSORIES	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68						
L35 0.00	LOADERS, FRONT END, CRAWLER TYPE	1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.81	0.79	0.76	0.71	0.66	0.63	0.63	0.63	0.61							
L40 0.00	LOADERS, FRONT END, WHEEL TYPE																								
L40 0.11	ARTICULATED, 0 THRU 225 HP	1.06	1.03	1.01	1.00	0.97	0.94	0.92	0.89	0.87	0.84	0.82	0.78	0.75	0.73	0.72	0.72	0.70	0.68						
L40 0.12	ARTICULATED, OVER 225 HP	1.05	1.03	1.01	1.00	0.97	0.95	0.93	0.90	0.88	0.85	0.83	0.79	0.77	0.75	0.74	0.74	0.72	0.70						
L40 0.20	SKID STEER	1.05	1.03	1.01	1.00	0.97	0.95	0.93	0.90	0.87	0.85	0.82	0.79	0.76	0.74	0.73	0.73	0.71	0.69						
L40 0.21	SKID STEER ATTACHMENTS	1.06	1.03	1.01	1.00	0.97	0.94	0.92	0.89	0.87	0.84	0.82	0.78	0.75	0.73	0.72	0.72	0.70	0.68						
L40 0.31	TOOL CARRIER & TELESCOPIC HANDLERS, 0 THRU 225 HP	1.06	1.03	1.01	1.00	0.97	0.94	0.92	0.89	0.87	0.84	0.82	0.78	0.75	0.73	0.72	0.72	0.70	0.68						
L40 0.32	TOOL CARRIER & TELESCOPIC HANDLERS, OVER 225 HP	1.05	1.03	1.01	1.00	0.97	0.95	0.93	0.90	0.88	0.85	0.83	0.79	0.77	0.74	0.74	0.73	0.72	0.70						
L45 0.00	LOADERS / BACKHOE, CRAWLER TYPE	1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.82	0.79	0.76	0.71	0.67	0.64	0.64	0.64	0.64	0.61						
L50 0.00	LOADERS / BACKHOE, WHEEL TYPE	1.06	1.03	1.01	1.00	0.97	0.94	0.92	0.89	0.87	0.84	0.82	0.78	0.75	0.73	0.72	0.72	0.70	0.68						

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years								Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982						
L55 0.00	LOADER / BACKHOE, ATTACHMENTS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67						
L60 0.00	LOG SKIDDERS	1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93	0.91	0.90	0.87	0.85	0.84	0.83	0.83	0.79	0.76	0.76						
M10 0.00	MARINE EQUIPMENT																								
M10 0.11	AQUATIC MAINTENANCE	1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62						
M10 0.12	AQUATIC MAINTENACE ATTACHMENTS	1.10	1.06	1.04	1.00	0.95	0.93	0.92	0.87	0.82	0.78	0.74	0.71	0.70	0.69	0.67	0.64	0.61	0.59						
M10 0.21	HYDRAULIC CUTTERHEAD DREDGE, 8" OR LESS, TRANSPORTABLE	1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62						
M10 0.22	HYDRAULIC CUTTERHEAD DREDGE, 8" - 12", TRANSPORTABLE	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.72	0.70	0.68	0.65	0.63						
M10 0.23	HYDRAULIC AUGERHEAD DREDGE, 12" OR LESS, TRANSPORTABLE	1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.80	0.76	0.73	0.72	0.71	0.69	0.67	0.64	0.62						
M10 0.24	HYDRAULIC FLOATING PUMPS, 12" OR LESS, TRANSPORTABLE	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.80	0.77	0.73	0.72	0.72	0.70	0.67	0.65	0.62						
M10 0.25	HYDRUALIC DREDGE PUMPS, 12" OR LESS, TRANSPORTABLE	1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.79	0.75	0.72	0.71	0.70	0.68	0.66	0.63	0.60						
M10 0.26	HYDRAULIC DREDGE / PUMP ATTACHMENTS	1.10	1.06	1.04	1.00	0.96	0.94	0.92	0.88	0.83	0.79	0.75	0.72	0.71	0.70	0.68	0.66	0.63	0.60						
M10 0.31	SMALL MECH DREDGES, CLAMSHELL, BARGE-MTD TO 5 CY	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.82	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.63						
M10 0.32	SMALL MECH DREDGES, AMPHIBIOUS EXCAVATORS	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.90	0.85	0.81	0.77	0.71	0.69	0.67	0.65	0.64	0.63	0.61						
M10 0.33	SMALL MECH DREDGES, HOE-MOUNTED DREDGING ATTACH	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64						
M10 0.34	CLAMSHELL, BARGE-MTD, 0 CY - 3 CY	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.78	0.74	0.74	0.73	0.71	0.69	0.66	0.64						
M10 0.35	CLAMSHELL, BARGE-MTD, OVER 3 CY - 6 CY	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.36	CLAMSHELL, BARGE-MTD, OVER 6 CY - 10 CY	1.08	1.05	1.03	1.00	0.96	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.75	0.75	0.73	0.71	0.68	0.66						
M10 0.37	CLAMSHELL, BARGE-MTD, OVER 10 CY	1.08	1.05	1.03	1.00	0.96	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.75	0.75	0.73	0.71	0.68	0.66						
M10 0.41	WORK FLOATS (NON-DREDGING)	1.10	1.06	1.04	1.00	0.96	0.94	0.93	0.88	0.83	0.80	0.76	0.73	0.72	0.72	0.69	0.67	0.64	0.62						
M10 0.42	WORK BARGES (SECTIONAL, NON-DREDGING)	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.80	0.77	0.73	0.73	0.72	0.70	0.68	0.65	0.63						
M10 0.45	FLAT-DECK OR CARGO BARGE (NON-DREDGING)	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.46	HOPPER BARGE (NON-DREDGING)	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.47	DRILL BARGE (NON-DREDGING)	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.48	ALL OTHER BARGES (NON-DREDGING)	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.51	BOATS & LAUNCHES, 0 THRU 250 HP	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.88	0.84	0.80	0.76	0.73	0.72	0.72	0.70	0.67	0.64	0.62						
M10 0.53	BOATS & LAUNCHES, 251 THRU 500 HP	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.80	0.77	0.73	0.73	0.72	0.70	0.68	0.65	0.63						
M10 0.54	TUGS, 501 THRU 1,000 HP	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64						

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years								Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982						
M10 0.55	TUGS, OVER 1,000 HP	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.85	0.81	0.78	0.75	0.74	0.74	0.71	0.69	0.67	0.65						
M10 0.60	LFTING CRANE, BARGE MTD, 25 - 75 TON, 45' BOOM	1.09	1.05	1.04	1.00	0.96	0.94	0.93	0.89	0.84	0.81	0.77	0.74	0.73	0.73	0.71	0.68	0.66	0.64						
M10 0.61	LFTING CRANE, BARGE MTD, OVER 75 - 125 TON, 60' BOOM	1.09	1.05	1.03	1.00	0.96	0.94	0.93	0.89	0.85	0.82	0.78	0.75	0.74	0.74	0.72	0.69	0.67	0.65						
M10 0.62	LFTING CRANE, BARGE MTD, OVER 125 - 200 TON, 80' BOOM	1.08	1.05	1.03	1.00	0.96	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.75	0.75	0.73	0.71	0.68	0.66						
M10 0.63	LFTING CRANE, BARGE MTD, OVER 200 TON, 100' BOOM	1.08	1.05	1.03	1.00	0.96	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.75	0.75	0.73	0.71	0.68	0.67						
P10 0.00	PILE HAMMER ACCESSORIES - EXTRACTORS & BOX LEADS	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P20 0.00	PILE HAMMERS, DOUBLE ACTING																								
P20 0.10	DIESEL	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P20 0.20	STEAM	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P25 0.00	PILE HAMMERS, SINGLE ACTING																								
P25 0.10	DIESEL	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P25 0.20	STEAM	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P30 0.00	PILE HAMMERS, DRIVER/ EXTRACTOR, VIBRATORY	1.08	1.05	1.02	1.00	0.97	0.94	0.93	0.89	0.86	0.83	0.79	0.73	0.71	0.69	0.67	0.66	0.65	0.62						
P35 0.00	PIPELAYERS	1.06	1.04	1.02	1.00	0.97	0.93	0.90	0.85	0.82	0.80	0.77	0.72	0.67	0.64	0.64	0.65	0.65	0.62						
P40 0.00	PLATFORMS & MAN-LIFTS	1.07	1.05	1.02	1.00	0.97	0.95	0.94	0.89	0.84	0.80	0.76	0.70	0.68	0.65	0.63	0.62	0.61	0.59						
P45 0.00	PUMPS, GROUT	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69						
P50 0.00	PUMPS, WATER, CENTRIFUGAL, TRASH																								
P50 0.11	SKID MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
P50 0.12	SKID MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
P50 0.21	WHEEL MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
P50 0.22	WHEEL MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						
P50 0.31	HOSES, PUMP, SUCTION & DISCHARGE	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69						
P55 0.00	PUMPS, WATER, SUBMERSIBLE																								
P55 0.01	ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.81	0.77	0.75	0.73	0.72	0.71	0.69	0.67						
P55 0.02	ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.81	0.77	0.75	0.73	0.72	0.71	0.69	0.67						
P60 0.00	PUMPS, WATER, CENTRIFUGAL, DEWATERING																								
P60 0.11	SKID MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67						

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years										Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982								
P60 0.12	SKID MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P60 0.21	WHEEL MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P60 0.22	WHEEL MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P65 0.00	PUMPS, WATER, DIAPHRAGM																										
P65 0.11	SKID MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P65 0.12	SKID MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P65 0.21	WHEEL MOUNTED, ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P65 0.22	WHEEL MOUNTED, ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P70 0.00	PUMPS, WATER (FOR CORE DRILLS)																										
P70 0.01	ENGINE DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
P70 0.02	ELECTRIC DRIVE	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.69	0.67								
R10 0.00	RIPPERS & HYDRAULIC BANK SLOPERS(no point wear included)	1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.81	0.79	0.76	0.71	0.66	0.63	0.63	0.63	0.61									
R15 0.00	ROLLERS, STATIC, TOWED, PNEUMATIC	1.05	1.03	1.01	1.00	0.98	0.95	0.90	0.89	0.94	0.93	0.90	0.88	0.84	0.82	0.81	0.77	0.73	0.66								
R20 0.00	ROLLERS, STATIC, TOWED, STEEL DRUM	1.05	1.03	1.01	1.00	0.98	0.95	0.90	0.89	0.94	0.93	0.90	0.88	0.84	0.82	0.81	0.77	0.73	0.66								
R30 0.00	ROLLERS, STATIC, SELF-PROPELLED																										
R30 0.01	PNEUMATIC	1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.89	0.94	0.93	0.90	0.88	0.83	0.82	0.80	0.77	0.72	0.65								
R30 0.02	SMOOTH DRUM	1.05	1.03	1.01	1.00	0.98	0.95	0.90	0.89	0.94	0.93	0.90	0.88	0.84	0.82	0.81	0.77	0.73	0.66								
R30 0.03	TAMPING FOOT	1.05	1.03	1.01	1.00	0.98	0.95	0.90	0.89	0.94	0.93	0.90	0.88	0.84	0.82	0.81	0.77	0.73	0.66								
R40 0.00	ROLLERS, VIBRATORY, TOWED	1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.89	0.94	0.93	0.90	0.88	0.83	0.82	0.80	0.77	0.72	0.65								
R45 0.00	ROLLERS, VIBRATORY, SELF-PROPELLED, DOUBLE DRUM	1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.89	0.94	0.93	0.90	0.88	0.83	0.82	0.80	0.77	0.72	0.65								
R50 0.00	ROLLERS, VIBRATORY, SELF-PROPELLED, SINGLE DRUM	1.05	1.03	1.01	1.00	0.98	0.95	0.89	0.89	0.94	0.93	0.90	0.88	0.83	0.82	0.80	0.77	0.72	0.65								
R55 0.00	ROOFING EQUIPMENT	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68								
S10 0.00	SCRAPERS, ELEVATING																										
S10 0.01	0 THRU 200 HP	1.08	1.04	1.02	1.00	0.94	0.92	0.89	0.83	0.81	0.77	0.75	0.70	0.68	0.65	0.65	0.63	0.63	0.61								
S10 0.02	OVER 200 HP	1.08	1.04	1.02	1.00	0.94	0.93	0.90	0.84	0.81	0.78	0.75	0.71	0.69	0.66	0.66	0.64	0.64	0.62								
S15 0.00	SCRAPERS, CONVENTIONAL	1.08	1.04	1.01	1.00	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.72	0.70	0.68	0.67	0.65	0.65	0.64								
S20 0.00	SCRAPERS, TANDEM POWERED	1.08	1.04	1.01	1.00	0.95	0.93	0.90	0.85	0.82	0.79	0.76	0.72	0.70	0.68	0.67	0.65	0.65	0.64								

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY	REGION 9	TYPE OF EQUIPMENT	Life in Years					Year Purchased New												
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SUB			1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982
S25 0.00	SCRAPERS, TRACTOR DRAWN		1.08	1.04	1.02	1.00	0.94	0.92	0.90	0.84	0.81	0.78	0.75	0.71	0.69	0.66	0.65	0.64	0.64	0.62
S30 0.00	SCREENING & CRUSHING PLANTS																			
S30 0.10	CONVEYORS		1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68
S30 0.20	CRUSHERS		1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
S30 0.30	SCREENING PLANT		1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68
S35 0.00	SNOW REMOVAL EQUIPMENT		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
S40 0.00	SOIL & ROAD STABILIZERS		1.08	1.04	1.02	1.00	0.94	0.92	0.89	0.83	0.81	0.77	0.75	0.70	0.68	0.65	0.65	0.63	0.63	0.61
S45 0.00	SPLITTERS, ROCK & CONCRETE		1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67
T10 0.00	TRACTOR BLADES & ATTACHMENTS		1.06	1.04	1.02	1.00	0.97	0.93	0.89	0.84	0.82	0.79	0.76	0.71	0.67	0.64	0.64	0.64	0.64	0.61
T15 0.00	TRACTORS, CRAWLER (DOZER) (includes blade)																			
T15 0.01	0 THRU 225 HP		1.06	1.04	1.02	1.00	0.96	0.93	0.89	0.84	0.81	0.79	0.75	0.71	0.66	0.63	0.63	0.63	0.63	0.60
T15 0.02	226 HP THRU 425 HP		1.06	1.03	1.02	1.00	0.97	0.93	0.90	0.85	0.83	0.80	0.78	0.73	0.69	0.66	0.66	0.66	0.66	0.64
T15 0.03	OVER 425 HP		1.06	1.03	1.01	1.00	0.97	0.94	0.90	0.86	0.83	0.81	0.78	0.74	0.69	0.67	0.67	0.67	0.67	0.65
T20 0.00	TRACTORS, WHEEL TYPE (DOZER)		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.94	0.92	0.90	0.88	0.86	0.84	0.83	0.83	0.79	0.77	0.76
T25 0.00	TRACTORS, AGRICULTURAL																			
T25 0.10	CRAWLER		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.94	0.92	0.90	0.88	0.86	0.84	0.83	0.83	0.79	0.77	0.76
T25 0.20	WHEEL		1.05	1.04	1.02	1.00	1.00	0.99	0.95	0.93	0.91	0.90	0.87	0.85	0.84	0.83	0.83	0.79	0.76	0.76
T30 0.00	TRENCHERS, CHAIN TYPE CUTTER		1.07	1.06	1.02	1.00	0.98	0.95	0.89	0.86	0.84	0.83	0.80	0.79	0.77	0.77	0.75	0.74	0.73	0.67
T35 0.00	TRENCHERS, WHEEL TYPE CUTTER		1.07	1.06	1.02	1.00	0.98	0.95	0.90	0.86	0.85	0.83	0.81	0.79	0.78	0.77	0.76	0.75	0.73	0.68
T40 0.00	TRUCK OPTIONS																			
T40 0.10	CRANES / HOISTS, PERSONNEL & MATERIAL HANDLING		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
T40 0.20	DUMP BODY, REAR		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
T40 0.30	FLATBEDS, WITH SIDES		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
T40 0.41	HOIST, ELECTRIC DRIVE		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
T40 0.50	TRANSIT MIXERS		1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69
T40 0.60	WATER TANKS		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68
T40 0.70	ALL OTHER OPTIONS		1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years										Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982								
T45 0.00	TRUCK TRAILERS																										
T45 0.10	BOTTOM DUMP	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69								
T45 0.20	END DUMP	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69								
T45 0.30	PUP TRAILER	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69								
T45 0.41	LOWBOY, RIGID NECK, DROP DECK	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66								
T45 0.50	FLATBED TRAILER	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66								
T45 0.60	MISCELLANEOUS / UTILITY	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66								
T45 0.70	WATER TANKER TRAILER	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66								
T45 0.80	DECONTAMINATION FACILITY	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84	0.80	0.76	0.73	0.71	0.70	0.69	0.67	0.65								
T45 0.90	TANK TRAILERS	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.76	0.74	0.72	0.71	0.70	0.68	0.66								
T50 0.00	TRUCKS, HIGHWAY (add attachments as required)																										
T50 0.01	0 THRU 10,000 GVW	0.96	0.97	0.98	1.00	0.99	0.97	0.92	0.87	0.82	0.79	0.78	0.74	0.72	0.72	0.68	0.66	0.62	0.59								
T50 0.02	OVER 10,000 THRU 30,000 GVW(CHASSIS ONLY-ADD OPTIONS)	0.96	0.97	0.98	1.00	0.99	0.97	0.92	0.87	0.83	0.79	0.78	0.74	0.73	0.72	0.68	0.66	0.63	0.60								
T50 0.03	OVER 30,000 GVW (CHASSIS ONLY-ADD OPTIONS)	0.97	0.97	0.98	1.00	0.99	0.97	0.92	0.88	0.83	0.80	0.79	0.75	0.74	0.73	0.69	0.67	0.64	0.61								
T55 0.00	TRUCKS, OFF-HIGHWAY	1.07	1.04	1.03	1.00	0.97	0.91	0.89	0.88	0.87	0.85	0.81	0.75	0.72	0.70	0.70	0.69	0.69	0.67								
T56 0.00	TRUCKS, OFF-HIGHWAY/PRIME MOVER TRACTORS & WAGONS																										
T56 0.10	PRIME MOVER TRACTORS	1.07	1.04	1.03	1.00	0.97	0.91	0.89	0.88	0.87	0.84	0.80	0.74	0.71	0.70	0.69	0.69	0.68	0.66								
T56 0.20	WAGONS, BOTTOM DUMP	1.07	1.04	1.03	1.00	0.97	0.91	0.88	0.88	0.86	0.84	0.80	0.74	0.71	0.69	0.69	0.68	0.67	0.66								
T56 0.30	WAGONS, REAR DUMP	1.07	1.04	1.03	1.00	0.97	0.91	0.88	0.87	0.86	0.84	0.80	0.74	0.70	0.69	0.68	0.68	0.67	0.65								
T57 0.00	TRUCKS, VACUUM	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68								
T60 0.00	TRUCKS, WATER, OFF-HIGHWAY	1.07	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.73	0.69	0.68	0.68	0.67	0.66	0.64								
T65 0.00	TUNNEL/MINING EQUIPMENT																										
T65 0.10	DRIFTING & TUNNELING DRILLS	1.06	1.03	1.02	1.00	0.96	0.94	0.93	0.90	0.89	0.87	0.84	0.79	0.78	0.78	0.78	0.79	0.79	0.79								
T65 0.20	TUNNEL BORING MACHINES	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.92	0.89	0.87	0.83	0.79	0.77	0.75	0.75	0.73	0.72	0.71								
T65 0.30	PRODUCTION DRILLING RIGS	1.06	1.03	1.02	1.00	0.96	0.94	0.92	0.90	0.89	0.86	0.83	0.78	0.78	0.78	0.79	0.78	0.79	0.79								
T65 0.40	ROADHEADERS & CONTINUOUS MINERS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.92	0.89	0.86	0.83	0.79	0.77	0.75	0.74	0.73	0.72	0.70								
T65 0.50	ROCK BOLTING EQUIPMENT	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68								

Table 3-2 Equipment Age Adjustment Factors for Standby Cost

CATEGORY SUB	REGION 9 TYPE OF EQUIPMENT	Life in Years								Year Purchased New															
		0 1999	1 1998	2 1997	3 1996	4 1995	5 1994	6 1993	7 1992	8 1991	9 1990	10 1989	11 1988	12 1987	13 1986	14 1985	15 1984	16 1983	17 1982						
T65 0.61	LOADING & HAULING EQUIPMENT, DIESEL OR GAS	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69						
T65 0.62	LOADING & HAULING EQUIPMENT, ELECTRIC	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.83	0.78	0.76	0.75	0.74	0.72	0.71	0.69						
T65 0.63	LOADING & HAULING EQUIPMENT, AIR-POWERED	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.81	0.77	0.75	0.73	0.72	0.71	0.69	0.67						
T65 0.70	LOCOMOTIVES	1.06	1.04	1.02	1.00	0.98	0.95	0.94	0.91	0.89	0.86	0.82	0.78	0.76	0.74	0.73	0.72	0.71	0.69						
T65 0.90	OTHER TUNNELING EQUIPMENT	1.06	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.86	0.82	0.78	0.75	0.74	0.73	0.71	0.70	0.68						
W10 0.00	WAGONS, BOTTOM DUMP	1.07	1.04	1.03	1.00	0.97	0.91	0.88	0.87	0.86	0.84	0.80	0.74	0.70	0.69	0.68	0.68	0.67	0.65						
W15 0.00	WAGONS, REAR DUMP	1.07	1.04	1.03	1.00	0.97	0.91	0.88	0.87	0.86	0.84	0.80	0.74	0.70	0.69	0.68	0.68	0.67	0.65						
W25 0.00	WATER & CO2 BLASTERS																								
W25 0.10	LOW PRESSURE, (< 5,000 PSI)	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91	0.87	0.84	0.81	0.76	0.74	0.72	0.71	0.69	0.68	0.66						
W25 0.20	HIGH PRESSURE, (>= 5,000 PSI)	1.07	1.04	1.02	1.00	0.97	0.95	0.93	0.91	0.88	0.85	0.81	0.77	0.74	0.72	0.71	0.70	0.69	0.67						
W25 0.30	STEAM CLEANERS	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.91	0.87	0.84	0.81	0.76	0.74	0.72	0.71	0.69	0.68	0.66						
W25 0.40	CO2 BLASTERS	1.07	1.04	1.02	1.00	0.97	0.95	0.94	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.71	0.70	0.68						
W30 0.00	WATER TANKS																								
W30 0.10	PORTABLE WITH WHEELS	1.07	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.73	0.69	0.68	0.68	0.67	0.66	0.64						
W30 0.20	SKID MOUNTED	1.07	1.04	1.03	1.00	0.96	0.91	0.88	0.87	0.86	0.83	0.79	0.73	0.69	0.68	0.68	0.67	0.66	0.64						
W35 0.00	WELDERS																								
W35 0.10	ENGINE DRIVEN	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84	0.80	0.76	0.73	0.71	0.70	0.69	0.67	0.65						
W35 0.20	ELECTRIC DRIVEN	1.07	1.05	1.02	1.00	0.97	0.95	0.93	0.90	0.87	0.84	0.80	0.76	0.73	0.71	0.70	0.69	0.68	0.66						

STANDBY HOURLY RATE CALCULATION FOR OVERAGE EQUIPMENT

EXAMPLE

Assume the following information for the rate calculation example:

- A. The unit of equipment is not listed in TABLE 2-1
- B. The equipment is contractor-owned
- C. Data for the unit in question:
 - 1. Clark front-end wheel loader
 - 2. Model 125C, 4WD, 4 CY capacity
 - 3. Serial number indicates year of manufacture = 1982
 - 4. Actual purchase price in 1982 = \$168,000
 - 5. Horsepower is 203 hp
 - 6. Drive tire size = 23.50 x 25, 16 Ply, L-3

$$\text{Drive tire cost (1999)} = 4 \text{ tires} \times \$1,711 = \$6,844$$

- D. Use the actual cost data as follows:
 - 1. Purchase price (TEV) = \$168,000
 - 2. Year of manufacture = 1982
- E. Hourly rate is computed as follows in accordance with Figure 3-2, Standby Hourly Rate Calculation for Overage Equipment.

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

Use this worksheet to compute rates for equipment that is not in this pamphlet.

1. EQUIPMENT INFORMATION & EXPENSE FACTORS

<i>For ID No. _____</i>	N/A
a. Equipment Specification Data:	
(1) Equipment Description:	CLARK FRONT-END WHEEL LOADER
(2) Model and Series:	125 C, 4WD, 4 C.Y.
(3) Present Year or Year of Use:	1999
(4) Year Manufactured:	1982
(5) Horsepower - Equipment:	203
(6) Horsepower - Carrier:	N/A
(7) Fuel type: - Equipment:	gas / diesel off-road / diesel on-road / electric / air <u>D-OFF</u>
- Carrier:	gas / diesel off-road / diesel on-road / electric / air <u>N/A</u>
(8) Shipping Weight (CWT):	367 CWT
(9) Tire size and number of tires: (Cost of tires based on present year - see 1.a.(3) & APPENDIX F)	
(a) Front:	No.: <u>N/A</u> Size/Ply: _____ Cost: \$ _____
(b) Drive:	No.: <u>4</u> Size/Ply: <u>23.5 X 25, 16 Ply</u> Cost: \$ <u>6,844</u>
(c) Trailing:	No.: <u>N/A</u> Size/Ply: _____ Cost: \$ _____
(d) Total Tire Cost:	\$ <u>6,844</u>

USE APPENDIX D TO COMPLETE THE FOLLOWING DATA:

b. Category and Sub-category Number:	L 4 0 0.11	
c. Hourly Expense Calculation Factors:		
(1) Economic Key (E K):	45	
(2) Condition (C):	Average or Severe	AVERAGE
(3) Discount Code (DC):	B = 7.5% (0.075) - or - S = 15.0% (0.15)	B = .075
(4) Life in Hours (LIFE):	10,000	
(5) Salvage Value Percentage (SLV):	0.25	
(6) Fuel Factor - Equipment (E G D):	0.033	
(7) Fuel Factor - Carrier (E G D):	N/A	
(8) FOG Factor (E G D):	0.445	
(9) Tire Wear Factor:		
(a) Front (FT):	N/A	
(b) Drive (DT):	(SEE 9(b)) 0.42	
(c) Trailing (TT):	N/A	
(10) Repair Cost Factor (RCF):	0.70	

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

2. EQUIPMENT VALUE

a. List Price + Accessories: (at Year of Manufacture) = \$ _____ ---

$$(1) \text{ Discount: } (\text{List Price}) \times (\text{Discount Code}) \quad [\text{1.c.(3)}]$$

$$(\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}}) = -(\$ \quad --- \quad)$$

$$(2) \text{ Subtotal } [2.a.] - [2.a.(1)] \quad S/T = \$ \underline{\hspace{2cm}}$$

$$(3) \text{ Sales or Import Tax: } (\text{Subtotal}) \times (\text{Tax Rate}) \quad [\text{APPENDIX B}]$$

$$(\underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}}) = +(\$ \quad --- \quad)$$

$$(4) \text{ Total Discounted Price: } \text{Subtotal: } [2.a.(2)] + [2.a.(3)] \quad S/T = \$ \underline{\hspace{2cm}}$$

b. Freight: (Shipping Weight) \times (Freight Rate per CWT) \quad [1.a.(8)] \quad [APPENDIX B]

$$(\underline{\hspace{2cm}} \text{ CWT}) \times (\underline{\hspace{2cm}}) = +(\$ \quad --- \quad)$$

c. **TOTAL EQUIPMENT VALUE (TEV):** \quad **2. TOTAL: = \$ 168,000**
 $[\text{(2.a.(4)}] + [\text{(2.b)}]$

(See Chapter 3 for used and overage equipment rate adjustments.)

3. DEPRECIATION PERIOD (N)

$$a. (\text{LIFE}) / (\text{Working Hours Per Year (WHPY)}) = N \quad [\text{1.c.(4)}] \quad [\text{APPENDIX B}]$$

$$(\underline{10,000} \text{ Hrs}) / (\underline{1040} \text{ Hrs/Yr}) \quad 3. \text{ TOTAL: = } \underline{9.615} \text{ Yrs(N)}$$

4. OWNERSHIP COST

a. Depreciation

(1) Tire Costs Index (TCI):

$$(\text{Tire Index, Yr of Mfgr}) / (\text{Tire Index, Based on 1a.(3)}) = \text{Tire Cost Index (TCI)} \quad [\text{APPENDIX E, EK=100}] \quad [\text{APPENDIX E, EK=100}]$$

$$(\underline{2552}) / (\underline{2400}) = \underline{1.063} \quad (\text{TCI})$$

a. Depreciation (continued)

$$(2) [(\text{TEV}) \times [1.0 - (\text{SLV})]] - [(\text{TCI}) \times (\text{Tire Cost})] / (\text{LIFE}) \quad [\text{2.c.}] \quad [\text{1.c.(5)}] \quad [\text{4.a. (1)}] \quad [\text{1.a.(9)(d)}] \quad [\text{1.c.(4)}]$$

$$[(\underline{168,000}) \times [1.0 - (\underline{0.25})]] - [(\underline{1.063}) \times (\underline{6,844})] / (\underline{10,000}) \\ = \$ \underline{11.87} / \text{Hr}$$

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Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

4. OWNERSHIP COST (Continued)

b. Facilities Capital Cost of Money (FCCM):

$$(1) [[(\frac{N}{[3.a.]}) - 1.0] \times [1.0 + (\text{SLV})] + 2.0] / [2.0 \times (\frac{N}{[3.a.]})] = \text{Avg Value Factor (AVF)}$$

$$[[(\underline{9.615} \text{ Yrs}) - 1.0] \times [1.0 + (\underline{0.25})] + 2.0] / [2.0 \times (\underline{9.615} \text{ Yrs})] = \underline{\underline{0.664}} \text{ (AVF)}$$

$$(2) (\frac{\text{TEV}}{[2.c.]} \times \frac{\text{AVF}}{[4.b.(1)]} \times \frac{\text{(Adjusted Cost-of-Money)}}{[\text{APPENDIX B}]}) / (\frac{\text{WHPY}}{[\text{APPENDIX B}]})$$

$$(\underline{168,000}) \times (\underline{0.664}) \times (\underline{0.04}) / (\underline{1040} \text{ Hrs/Yr}) \\ = \$ \underline{\underline{4.29}} \text{ /Hr}$$

c. **TOTAL HOURLY OWNERSHIP COST:** $[4.a.(2)] + [4.b.(2)]$

4. TOTAL: = \$ ----- /Hr

5. OPERATING COST

a. Fuel Costs:

(1) Equipment:

$$(\text{Fuel Factor}) \times (\text{Horsepower}) \times (\text{Fuel Cost Per Gallon}) \\ [\text{1.c.(6)}] \quad [\text{1.a.(5)}] \quad [\text{APPENDIX B}]$$

$$(\underline{---}) \times (\underline{---} \text{ HP}) \times (\underline{---} \text{ /Gal}) = \$ \underline{\underline{---}} \text{ /Hr}$$

(2) Carrier:

$$(\text{Fuel Factor}) \times (\text{Horsepower}) \times (\text{Fuel Cost Per Gallon}) \\ [\text{1.c.(7)}] \quad [\text{1.a.(6)}] \quad [\text{APPENDIX B}]$$

$$(\underline{---}) \times (\underline{---} \text{ HP}) \times (\underline{---} \text{ /Gal}) = \$ \underline{\underline{---}} \text{ /Hr}$$

(3) Total Hourly Fuel Costs: $[5.a.(1)] + [5.a.(2)]$

Total 5.a. = \$ ----- /Hr

b. FOG Cost:

(1) Equipment:

$$(\text{FOG Factor}) \times (\text{Equipment Fuel Cost}) \times (\text{LAF}) \\ [\text{1.c.(8)}] \quad [\text{5.a.(1)}] \quad [\text{APPENDIX B}]$$

$$(\underline{---}) \times (\underline{---} \text{ /Hr}) \times (\underline{---}) = \$ \underline{\underline{---}} \text{ /Hr}$$

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

5. OPERATING COST (Continued)

(2) Carrier:

$$(\text{FOG Factor}) \times (\text{Carrier Fuel Cost}) \times (\text{LAF})$$

[1.c.(8)] [APPENDIX B]

$$(\underline{\quad \quad \quad}) \times (\underline{\quad \quad \quad} / \text{Hr}) \times (\underline{\quad \quad \quad}) = \$ \underline{\quad \quad \quad} / \text{Hr}$$

$$\text{(3) Total Hourly Fog Cost:} \quad \text{Total 5.b.} = \$ \underline{\quad \quad \quad} / \text{Hr}$$

[(5.b.(1)) + (5.b.(2))]

c. Alternative Fuel/FOG Cost:

$$\text{Total 5.c.} = \$ \underline{\quad \quad \quad} / \text{Hr}$$

(See Chapter 2, paragraph 24.d. for guidance on when to use.)

d. Repair Cost:

(1) Economic Adjustment Factor (EAF):
 (EK is from [1 c. (1)])

$$(\text{Economic Index for Year 1a.(3)}) / (\text{Economic Index for Year 1a.(4)})$$

[APPENDIX E] [APPENDIX E]

$$(\underline{\quad \quad \quad}) / (\underline{\quad \quad \quad}) = \underline{\quad \quad \quad} (\text{EAF})$$

(See TABLE 3-2 for last year of economic life)

(2) Repair Factor (RF):

$$(\text{RCF}) \times (\text{EAF}) \times (\text{LAF}) = \text{Repair Factor (RF)}$$

[1.c.(10)] [5.d.(1).] [APPENDIX B]

$$(\underline{\quad \quad \quad}) \times (\underline{\quad \quad \quad}) \times (\underline{\quad \quad \quad}) = \underline{\quad \quad \quad} (\text{RF})$$

(3) Repair Cost

$$[(\text{TEV}) - [(\text{TCI}) \times (\text{Tire Cost})]] \times (\text{RF}) / (\text{LIFE})$$

[2.c.] [4.a. (1)] [1.a.(9)(d)] [5.d.(2)] [1.c.(4)]

$$[(\underline{\quad \quad \quad}) - [(\underline{\quad \quad \quad}) \times (\underline{\quad \quad \quad})]] \times (\underline{\quad \quad \quad}) / (\underline{\quad \quad \quad})$$

$$\text{(4) Total Hourly Repair Cost:} \quad \text{Total 5.d.} = \$ \underline{\quad \quad \quad} / \text{Hr}$$

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

5. OPERATING COST (Continued)

e. Tire Wear Cost: (Use current price levels. See APPENDIX F)

(1) Front Tires:

[1.5 x (FT Cost)] / [1.8 x (FT Wear Factor) x (Maximum Tire Life/Hrs)]
[1.a.(9)(a)] [1.c.(9)(a)] [APPENDIX G]

$$[1.5 \times (\text{---})] / [1.8 \times (\text{---}) \times \text{---} / \text{Hrs}] = \$ \text{---} / \text{Hr}$$

(2) Drive Tires:

[1.5 x (DT Cost)] / [1.8 x (DT Wear Factor) x (Maximum Tire Life/Hrs)]
[1.a.(9)(b)] [1.c.(9)(b)] [APPENDIX G]

$$[1.5 \times (\text{---})] / [1.8 \times (\text{---}) \times (\text{---} / \text{Hrs})] = \$ \text{---} / \text{Hr}$$

(3) Trailing Tires:

[1.5 x (TT Cost)] / [1.8 x (TT Wear Factor) x (Maximum Tire Life/Hrs)]
 [1.a.(9)(c)] [1.c.(9)(c)] [APPENDIX G]

$$[1.5 \times (\underline{\hspace{1cm}} - \underline{\hspace{1cm}})] / [1.8 \times (\underline{\hspace{1cm}} - \underline{\hspace{1cm}}) \times (\underline{\hspace{1cm}} - \underline{\hspace{1cm}} / \text{Hrs})]$$

= \$ _____ - ___ /Hr

(4) Total Tire Wear Cost:

Total 5.e. = \$ ---- /Hr

[Sum 5.e.(1) through 5.e.(3)]

f. Tire Repair Cost:

$$(\text{Total Tire Wear}) \times 0.15 \times (\text{LAF})$$

[5.e.(4)] [APPENDIX B]

(-----) x 0.15 x (-----) Total 5.f. = \$ --- /Hr

q. TOTAL HOURLY OPERATING COST:

[Sum 5.a. through 5.f.]

5. TOTAL: \$ ---- /Hr

[Sum 5.a. through 5.f.]

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment

6. HOURLY RATES

a. Total Hourly Rate: *(based on 40 hours per week)*

$$(\text{Ownership Cost}) + (\text{Operating Cost}) \\ [4.c.] \qquad \qquad [5.g.]$$

$$(\underline{\hspace{2cm}}/\text{Hr}) + (\underline{\hspace{2cm}}/\text{Hr})$$

$$= \$ \underline{\hspace{2cm}} \text{N/A} \underline{\hspace{2cm}}/\text{Hr}$$

b. Other Work Shifts Hourly Rate :

(Refer to Chapter 3, Adjustments to Rates, for methodology.)

$$[(\text{Depreciation}) + [(\text{FCCM}) \times (40 \text{ hrs/wk}) / (\text{Work Hrs/wk})] + (\text{Operating Costs})] \\ [4.a.(2)] \qquad [4.b.(2)] \qquad \qquad \qquad (\text{example: } 60 \text{ hrs/wk}) \qquad [5.g.]$$

$$[(\underline{\hspace{2cm}}/\text{Hr}) + [(\underline{\hspace{2cm}}/\text{Hr}) \times (40 \text{ Hrs/wk}) / (\underline{\hspace{2cm}}\text{Hrs/wk})] + (\underline{\hspace{2cm}}/\text{Hr})]$$

$$= \$ \underline{\hspace{2cm}} \text{N/A} \underline{\hspace{2cm}}/\text{Hr}$$

c. Standby Hourly Rate:

$$[(\text{Depreciation}) \times 0.50] + (\text{FCCM}) \\ [4.a.(2)] \qquad [4.b.(2)]$$

$$[(\underline{\hspace{2cm}}/\text{Hr}) \times 0.50] + (\underline{\hspace{2cm}}/\text{Hr})$$

$$= \$ \underline{\hspace{2cm}} \text{9.98} \underline{\hspace{2cm}}/\text{Hr}$$

See Chapter 3 if rate adjustments are necessary.

Figure 3-2. Standby Hourly Rate Calculation for Overage Equipment